U.S. Department of the Interior
Bureau of Land Management
Ely Field Office

White River Herd Management Area Wild Horse Gather Plan and Preliminary Environmental Assessment

NV-040-04-002

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Table of Contents

I. Background Information

With passage of the Wild and Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195), Congress found that: "*Wild horses are living symbols of the pioneer spirit of the West*". In addition, the Secretary of the Interior was ordered to "*manage wild free-roaming horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands*". From the passage of the Act through present day, the Bureau of Land Management (BLM), Ely Field Office has endeavored to meet the requirements of this portion of the Act. The procedures and policies implemented to accomplish this mandate have constantly evolved over the years.

Throughout this period BLM experience has grown, and the knowledge of the effects of current and past management on wild horses and burros has increased. For example, wild horses have been shown to be capable of 18 to 25% increases in numbers annually (Joel Berger, *Wild Horses of the Great Basin - Social Competition and Population Size*, University of Chicago Press, 1986). This can result in a doubling of the wild horse population about every 3 years. At the same time nationwide awareness and attention has grown. As these factors have come together, the emphasis of the wild horse and burro program has shifted.

Program goals have expanded beyond establishing a *"thriving natural ecological balance"* (by setting appropriate management level (AML)) for individual herds, to include achieving and maintaining healthy, viable, vigorous, and stable populations.

The Strategic Plan for Management of Wild Horses and Burros on Public Lands involves establishing and achieving AML on all Herd Management Areas (HMAs) managed by the BLM, and to achieve and maintain AML on all HMAs following a four-year gather cycle. The numbers of animals projected to be removed, based on this four year rotation, was estimated based on the use of the wild horse population model developed by Dr. Steve Jenkins of the University of Nevada, Reno. Those numbers, by state and year, were first proposed through the President's 2001 budget request as *A Strategy to Achieve Healthy Lands and Viable Herds, The Restoration of Threatened Watersheds Initiative*, and later approved by Congress.

An environmental analysis (EA) of a wild horse gather in the White River HMA was conducted in 1996. This analysis covered the impacts of various removal methods on wild horses and other critical elements of the human environment in order to achieve AML and alleviate drought impacts. One emergency removal in 1996 occurred from that analysis. This analysis is documented in Environmental Assessment for the Seaman and White River HMAs Wild Horse Removal Plan, EA No. NV-040-96-05. At the end of the removal, 56 wild horses were estimated to remain on the range. The HMA was aerially censused in April, 2000, with the population estimated at 201 head, and again in 2003 with 286 wild horses counted. In order for the population to grow to 286 wild horses in 2003 from the population of 66 wild horses in 1997, the average annual population increase over those six years was nearly 28%. The current estimated wild horse population is 343 head or 3.8 times higher than the AML of 90 wild horses.

Monitoring data collected for the HMA since AML was established highlights that utilization by wild horses has increased following the gather in 1996 to heavy to severe in established key areas. Other data illustrating that an over-population of wild horses exists includes trampling damage by wild horses. Horse trails have increased, especially on valley benches where horses trail between water and feeding areas. Wild horses are congregating on key foraging areas, and moving off the HMA during later summer and causing damage to riparian areas. Band size has also increased with sightings of more than 20 animals in one group. This data also shows that an overpopulation of wild horses exists. The current AML of 90 wild horses is appropriate, based on recent review of the AML analysis and data collected since AML was established.

This EA has been prepared to assess the environmental impacts of adjusting the numbers of wild horses within the White River HMA located in the Ely District (Figure 1) at this point in time.

AML for this HMA has been established through the Land Use Planning/Multiple Use Decision process based on monitoring data and following a thorough public review. Documents containing this information are available for public review at the Ely Field Office.

A. Need for Proposal

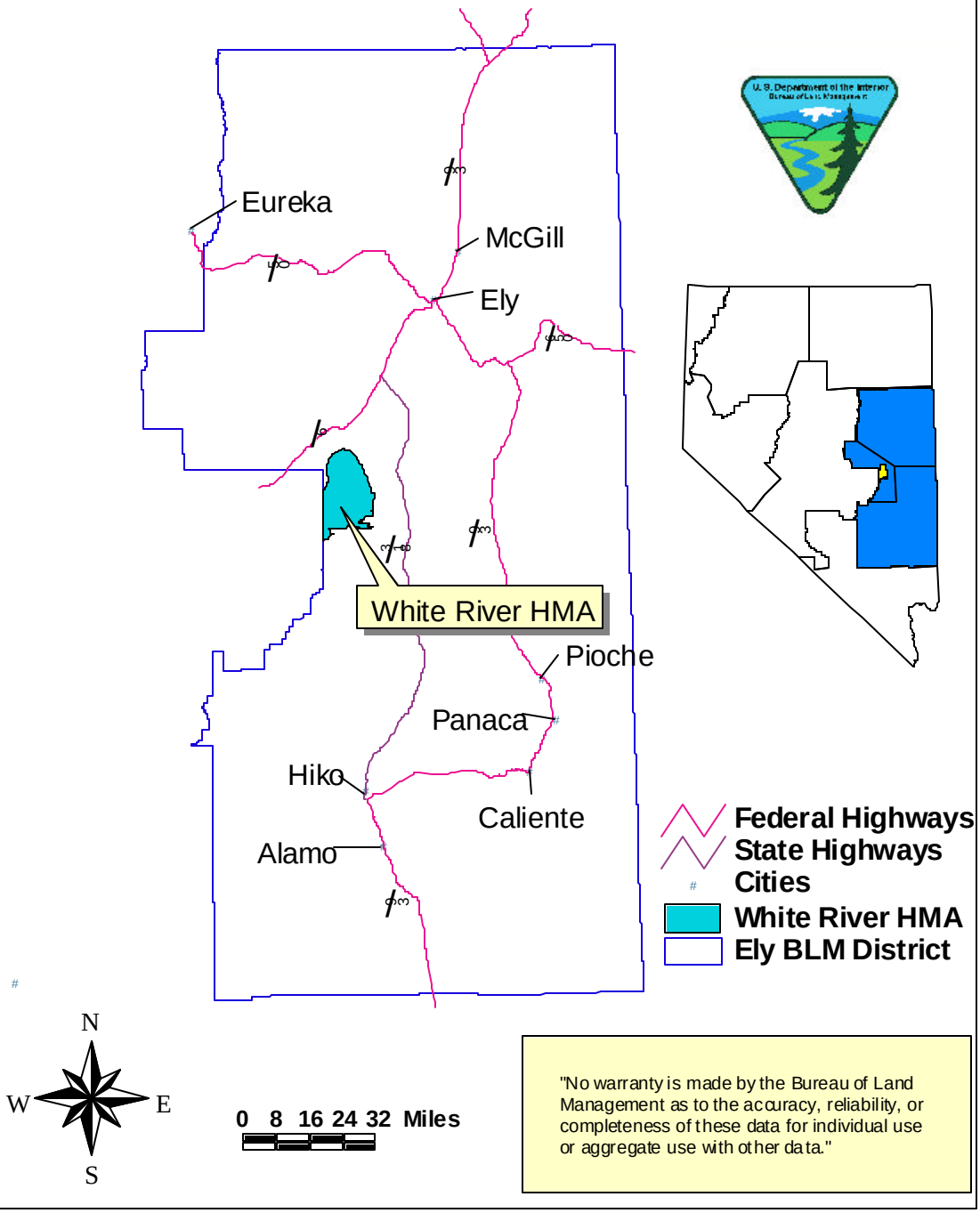
The Ely Field Office is proposing to implement the gather and removal of wild horses to management objectives in the White River HMA. The need for this management action would be to achieve a "thriving natural ecological balance", maintain healthy wild horses, improve watershed health, and "make significant progress" towards achievement of Mojave-Southern Great Basin Resource Advisory Council (RAC) Standards for rangeland health.

BLM has determined that there are excess wild horses present and the Proposed Action is needed in summer 2004 to remove about 289 wild horses to restore wild horse herd numbers to levels consistent with the AML for the HMA.

Vegetation monitoring in relation to use by wild horses in the HMA has determined that current wild horse population levels are exceeding the range's capacity to sustain wild horse use over the long term. Resource damage is occurring and it likely to continue to occur without immediate action. Nevada is in the fourth year of drought with this water year showing an extreme drought in the eastern portion of the state. The proposed capture and removal is needed at this time in order to achieve a thriving natural ecological balance between wild horse populations, wildlife, livestock and vegetation, and to protect the range from the deterioration associated with overpopulation of wild horses as authorized under Section 3(b) (2) of the 1971 Free-Roaming Wild Horses and Burros Act and Section 302(b) of the Federal Land Policy and Management Act of 1976.

NV-040 12/17/03

Figure 1. Location of White River HMA



"No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data."

B. Gather Plan Objectives

The objectives for the White River HMA Gather Plan are:

1. *Restore and maintain a thriving natural ecological balance to the range, meet RAC standards for rangeland health, and protect the range from the deterioration associated with overpopulation.*

2. *Reduce reproductive rates to levels that would accommodate a minimum 4-year gather schedule allowing for maintenance of AML.*

3. *Ensure the health and viability of the White River HMA wild horse population.*

4. *Re-establish the pre-selective removal gather sex distribution toward a more "natural" distribution (50/50).*

5. *Prevent unavoidable pain and suffering through deterioration of the health, and subsequent death of wild horses, due to shortages of forage and water as a result of drought conditions and overpopulation of the herd in excess of the capability of the habitat to support it.*

6. *Re-establish or maintain herd characteristics, which were typical of the herd at the time of the passage of the Act.*

7. *Maintain the genetic diversity of the White River HMA herd.*

C. Relationship to Planning

The White River Wild Horse Gather is subject to the Schell Management Framework Plan (MFP), Schell Grazing Environmental Impact Statement (EIS), and subsequent Record of Decision (ROD) dated 1983, and the Egan Resource Management Plan (RMP) and Final Environmental Impact Statement (FEIS) dated December 24, 1983, and resolution of protests received on the proposed RMP and FEIS documents dated September 21, 1984, and the Egan Resource Area Record of Decision (ROD) which was finalized February 3, 1987. The proposed wild horse gather is in conformance with these plans because it is clearly consistent with the goals and objectives of the approved land use plans.

The proposed action is also consistent with the Wild Free Roaming Horse and Burro Act of 1971, which mandates the Bureau to *"prevent the range from deterioration associated with overpopulation*", and "*remove excess horses in order to preserve and maintain a thriving natural ecological balance and multiple use relationships in that area"*. Additionally, Promulgated Federal Regulations at Title 43 CFR 4700.0-6 (a) state "*Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat* (emphasis added)." It is also consistent with the Strategic Plan for Management

of Wild Horses and Burros on Public Lands, dated June 1992, which states, *"Provide for management of Wild Horse and Burro populations through a variety of techniques that may be used singly or in combination to ensure habitat is maintained and animals living on the land are in concert with the natural ecosystem and other users of the land."*

In addition, it is consistent with the Mojave-Southern Great Basin RAC Standards for Rangeland Health. The action is consistent with local plans to the maximum extent possible. The Nye County policy is that *"wild horse and burro herds should be managed at reasonable levels to be determined with public involvement and managed in consideration of needs of other wildlife species and livestock grazing."* It is consistent with federal, state, and local laws; federal regulations, and Bureau policy.

Alternative I, selective removal to 54 wild horses with fertility control, is consistent with all of the above stated plans, laws, policies, and regulations.

The No Action Alternative would violate the Wild Free Roaming Horse and Burro Act, federal regulations and Bureau policy. In addition, the No Action alternative would not comply with the Mojave-Southern Great Basin RAC Standards and Guidelines for Rangeland Health and Healthy Wild Horse and Burro Populations. It is inconsistent with the Strategic Plan for Management of Wild Horses and Burros on Public Lands.

AML for the White River HMA was established through the allotment evaluation/Final Multiple Use Decision (FMUD) process including Cove Allotment Evaluation/FMUD (1996), Duckwater Allotment Evaluation/FMUD (1995) and settlement (1996), Sunnyside and Hardy Spring Allotment Evaluation/FMUD (1996), North Cove Allotment Evaluation/FMUD (1992), and the Wells Station Allotment Evaluation/FMUD (1997).

Table I. Appropriate Management Level by Allotment

Allotment	Appropriate Management Level for White River HMA
Cove Allotment	42 10 (3 months)
Duckwater Allotment	10 (9 months)
Hardy Spring Allotment	24
North Cove Allotment	0
Wells Station Allotment	14
Total AML for White River HMA	**90**

The AML was established based on in-depth analysis and monitoring data including livestock grazing, wild horse grazing, and wildlife use measured against Land Use Plan objectives, regulation, and applicable law. These allotment evaluations and FMUD's are available in the Ely Field Office for public review.

D. Issues

The two issues identified were the proper management of wild horses and maintaining rangeland health.

II. Description of Proposed Action and Alternatives

The proposed action and alternatives represent the required range of alternatives according to Bureau policy.

A. Proposed Action: Removal to 54 Wild Horses without Fertility Control

The proposed action for the White River Gather would be to capture approximately 100% of the estimated 2004 population, or approximately 343 wild horses, and remove all animals in excess of 54 animals from the White River HMA, including any wild horses that move outside the HMA boundaries during gather operations. This level of animals was determined to ensure a "*thriving natural ecological balance*" during the next three years. Removal to 54 animals is necessary to allow for the natural increase in population over time, and to alleviate resource damage that is currently occurring. Removal to 90 head would lead to resource damage following the first foaling season and would not allow recovery of the habitat, which has already been stressed due to continued wild horse overpopulation and drought conditions (refer to Background Information).

The removal of excess wild horses to achieve and maintain AML is tentatively scheduled to commence in summer 2004 and last approximately nine days. Capture would be through the helicopter drive trapping method or helicopter roping (Appendix I: Standard Operating Procedures).

Multiple capture sites would be used to capture wild horses from the HMA. No capture sites would be located within Wilderness Study Areas. Whenever possible, capture sites would be located in previously disturbed areas. All capture and handling activities (including capture site selections) would be conducted in accordance with Standard Operating Procedures (SOPs) described in Appendix I.

The gather would utilize the current selective removal strategy as developed by the National Wild Horse and Burro Program Office. The Selective Removal Strategy policy was issued February 2002 (Instruction Memorandum 2002-095)[1]. This strategy would allow the removal of all age classes in the following priority order:

1. Age class 5 years old and under

[1] The Selective Removal Strategy may be updated prior to the White River HMA gather occurring.

2. Age class 10 years old and over
3. Age class 6 through 9 years old

The first animals to be removed would be five years and younger, the second class of animals to be removed would be 10 years and older. Animals aged six to nine would be returned to the range unless they need to be removed to achieve management objectives. All nursing mares would be removed regardless of age to prevent orphaned foal death. Previous releases of nursing mares with young foals have shown that the foals tend not keep up when released, and many subsequently become orphaned and die.

The past selective removal in 1996 was age-based, with a removal of all zero to nine year-old wild horses. However, selective removal under this alternative would not only be age based, but could also be based on other critical population variables, such as sex ratios and color characteristics, as described in the Wild Horses section of the Description of the Affected Environment.

The BLM would also engage in the following: collect data such as animal sex, age, and color; acquire blood samples in order to establish baseline genetic information; assess herd health (pregnancy, parasite loading, physical condition, etc.); sort individuals as to age, sex, temperament and/or physical condition; and return selected animals to the range. Excess horses would be transported to BLM holding facilities. Determination of which horses to be returned to the range would be based on an analysis of existing and past population characteristics from previous gathers. Horses selected for return to the range would be released at or near their original gather site.

Table II shows the June 2003 wild horse census data. The census was intended to be a total count of the wild horse population. This data was used to determine estimated removal and release numbers. It is anticipated that the entire population would need to be captured and 289 horses would be removed.

Table II. Population Data

HMA	Census June 2003	Appropriate Management Level	Estimated Population 2004	Estimated Numbers to Remove	Estimated Numbers to Release
White River	286	90	343	289	54

B. Alternative I: Removal to 54 Wild Horses with Fertility Control

Alternative I is to capture the entire population or approximately 343 wild horses within the White River HMA, and remove anything in excess of 54 wild horses or approximately 289 wild horses as described in the proposed action. All of the mares to be released back into the HMA would be treated with a revised immunocontraceptive vaccine, Porcine zona pellucidae (PZP).

The inoculation of mares would consist of a single liquid dose of PZP vaccine and a time released portion of the drug in the form of pellets. The approach under study incorporates the PZP into a non-toxic, biodegradable material that can be formed into small pellets. The pellets are injected with the liquid and are designed to release PZP at several points in time during the first three months after injection much the way time-release cold pills work. When injected, PZP (antigen) causes the mare's immune system to produce antibodies and these antibodies bind to the mare's own eggs, and effectively block sperm binding and fertilization (ZooMontana, 2000). This pellet/liquid formulation would be delivered to the mares as an intra-muscular injection using a jab-stick syringe or dart. The syringe would use a 12-gauge needle and the dart a 1.5" barbless needle. Zero point five cubic centimeters (cc) of the PZP vaccine would be emulsified with 0.5 cc of adjuvant (a compound that stimulates antibody production) and loaded into the delivery system. The pellets would be placed in the barrel of the syringe or dart needle and would be injected with the liquid. Only trained personnel would mix and administer the vaccine. Upon impact the liquid in the chamber would be propelled into the muscle along with the pellets. The injection would be done in the working chutes before the mares are released. This delivery method has been used previously to deliver immunocontraception vaccine with acceptable results. Such a vaccine would permit a single injection to cause up to three years of contraception at approximately 94% effectiveness year one, 82% effectiveness year two, and 68% effectiveness year three, if administered during the winter. Wild horses generally foal March through June, and because equines are seasonal spring breeders, they breed soon after foaling. Administering the injection during summer when the White River gather would occur would most likely result in two years of fertility control with the vaccine. The vaccine is effective for up to 22 months. If administered in summer (when the gather is scheduled to occur), the vaccine would effectively preventing breeding during 2005 and partially during 2006. However, the exact effectiveness when applied during the summer is unknown. PZP is relatively inexpensive, meets BLM requirements for safety to mares and the environment, and can easily be administered in the field.

The Humane Society of the United States (HSUS) has made the PZP vaccine available to the BLM under the Investigational New Animal Drug exemption (INAD #8857) filed with the federal Food and Drug Administration (FDA). As a condition of using the PZP vaccine, the HSUS expects the BLM to follow the Draft Criteria for Immunocontraceptive Use in Wild Horse Herds recommended by the Wild Horse and Burro National Advisory Board in August 1999. The Ely District is in full compliance with all pertaining criteria. The proposed action would also adhere to all guidance and research protocol set by the BLM National Wild Horse Fertility Control Field Trial program.

All treated mares would be identified and freezemarked with a Nevada State approved identification (such as a letter or a number) on the left hip to enable positive identification for future tracking and data collection. The effectiveness of treatments would be determined by counting foals produced in each of the next two years. Observations would be made from the ground utilizing binoculars and spotting scopes and/or by helicopter. Vehicular travel would be limited to existing roads.

C. Alternative II: No Action Alternative

The No Action Alternative is required by National Environmental Policy Act (NEPA) analysis to provide a baseline for impact analysis.

Under this alternative a wild horse gather would not take place in the White River HMA. There would be no active management to control the size of the population at this time, and the BLM would "let nature take its course". The current population of 343 wild horses would continue to increase at a rate of 18-25% annually and would be allowed to regulate their numbers naturally through predation, disease, and forage, water and space availability.

The No Action Alternative would violate the Wild Free Roaming Horse and Burro Act, federal regulations and Bureau policy. In addition, the No Action alternative would not comply with the Mojave-Southern Great Basin RAC Standards and Guidelines for Rangeland Health and Healthy Wild Horse and Burro Populations. It is inconsistent with the Strategic Plan for Management of Wild Horses and Burros on Public Lands.

D. Summary of Compared Alternatives

Table III shows a summary of the proposed action and alternatives.

Table III. Comparison of Alternatives

Alternative	Number of Wild Horses Captured	Number of Wild Horses Removed	Number of Wild Horses Released	Data Collection	Selective Removal Criteria Implemented	Fertility Control Used	Number of Mares Treated with Fertility Control
Proposed Action	343	289	54	Yes	Yes	No	0
Alternative I	343	289	54	Yes	Yes	Yes	27
No Action Alternative	0	0	0	No	No	No	0

III. Description of The Affected Environment

White River Herd Management Area

The White River HMA is located in eastern Nye County, approximately 20 miles southwest of Lund, Nevada, and 10 miles southeast of Currant, Nevada. The HMA is approximately 117,350 acres in size, and contains portions of the Horse Mountain Range and the Grant Mountain Range. Elevations range from 5,280 feet in the Lower Cove to 8,530 feet near the top of Bald Mountain.

A. Wild Horses

Currently the estimated wild horse population in the HMA based on census completed June, 2003, is 343 animals. The Appropriate Management Level (AML) is 90 wild horses.

Only one removal has occurred in the White River HMA since passage of the Wild and Free Roaming Horse and Burro Act. The 1996 removal occurred due to overpopulation and drought emergency issues.

Table IV. Previous Gathers

Date of Gather	Number of horses removed	Estimated Population After Removal
September, 1996	277	56

Sex ratios for wild horses within the White River HMA are representative of other HMAs in the Ely District and the West at large. At birth, sex ratios are roughly equal. This balance shifts to favor mares throughout the younger age classes. This pattern shifts again at around 15 years of age favoring studs (Joel Berger, *Wild Horses of the Great Basin - Social Competition and Population Size*, University of Chicago Press, 1986).

Past capture data was limited due to the emergency nature of the 1996 gather. Animal colors and frequency within the herd are unknown, but that data will be collected. Field and census observations show that the majority of horses exhibit bay, sorrel, black, and brown; although the White River herd is known for having many grays, whites, and roans.

B. Vegetation, Soil, and Water

The dominant vegetation communities within the HMA are typical of the Great Basin and include Wyoming big sagebrush/grass, black sagebrush/grass, salt desert shrub (winterfat/shadscale), cliffrose/mountain brush, and pinyon/juniper. These communities have perennial grass species such as bottlebrush squirreltail, Indian ricegrass, bluegrasses, and crested wheatgrass in the understory. Warm-season grasses are present in limited quantities. Permanent water sources within the HMA primarily consist of springs, which are located in the foothills away from the valley bottoms or at higher mountain elevations. Water is seasonally provided in the winter and spring by valley bottom wells which are pumped by the livestock operator.

C. Wildlife, Special Status Species, and Migratory Birds

The HMA area provides yearlong habitat for pronghorns, mule deer and Rocky Mountain elk. Mule deer and elk that reside in habitats to the north of the HMA also migrate into and through the area to winter. The north one-quarter of the HMA provides yearlong habitat for the sage grouse, a state of Nevada and BLM sensitive species. The United States Fish and Wildlife Service (USFWS) has received eight petitions to list the sage grouse as a threatened or endangered species across its range in North America. Localized populations of chukar partridge, scaled quail, and gambel's quail are present attendant to perennial water sources. The pygmy rabbit resides within the HMA boundaries. The pygmy rabbit was petitioned for listing as threatened or endangered under the Endangered Species Act. The ferruginous hawk, a state of

Nevada and BLM sensitive species also resides and nests each year in the project area. Passerine birds, amphibians, reptiles and small mammals common to the Great Basin environments can also be found in the area. There are no known threatened or endangered plant or animal species, or their habitats within the project area.

D. Livestock

White River HMA includes portions of the Cove, North Cove, Wells Station, Hardy Spring, and Duckwater livestock grazing allotments which are administered by the Ely BLM District (Figure 2). The HMA also includes a portion of the Maybe Seeding which is excluded from wild horse use due to fencing. The HMA is bordered by the Sheep Trail Seeding and the East Wells Allotment, both of which are fenced from the HMA. The Battle Mountain BLM District administers the Butterfield Allotment, a portion of which is within the HMA. The portion of the Butterfield Allotment that is within the HMA is covered by the Duckwater wild horse AML decision. The Butterfield portion has had livestock grazing non-use during the past several years. The portion of the Duckwater Allotment that lies within the HMA is the Red Mountain Use Area. Permitted livestock grazing use includes cattle grazing during the winter (Dec.-Feb.) and spring (March-April), as well as authorized sheep trailing during fall/winter (Nov.-March). Cattle grazing did not occur on the Red Mountain Use Area in 2003. Cattle grazing at less than full permitted use has been occurring approximately every other year for the past several years. There has been no sheep use for approximately 10 years. The Hardy Spring Allotment portion within the HMA has permitted fall, winter, and spring (Oct.-May) cattle use. The allotment has had grazing use every year in the past several years at less than full permitted numbers. The Cove, Wells Station, and North Cove Allotment portions within the HMA have permitted winter and spring (Dec.-May) cattle use. The Maybe Seeding, East Wells Allotment, and Sheep Trail Seeding are not managed for wild horses, even though the map boundaries intersect. Last year non-use was taken in the East Wells, Maybe Seeding, and Sheep Trail Seeding Allotments. The Cove and North Cove Allotments have the Preston/Lund Trail passing through them, so there is fall and spring sheep trailing use. The White River Trail passes through the East Wells and the Hardy Spring Allotments. It also has spring and fall sheep use.

E. Wilderness

The western side of the HMA has portions of two Wilderness Study Areas (WSA) (Figure 3). The Blue Eagle WSA has a small overlap with the HMA boundaries. Further south, a portion of the Riordan's Well WSA is located within the HMA.

F. Noxious Weeds and Invasive Non-Native Species

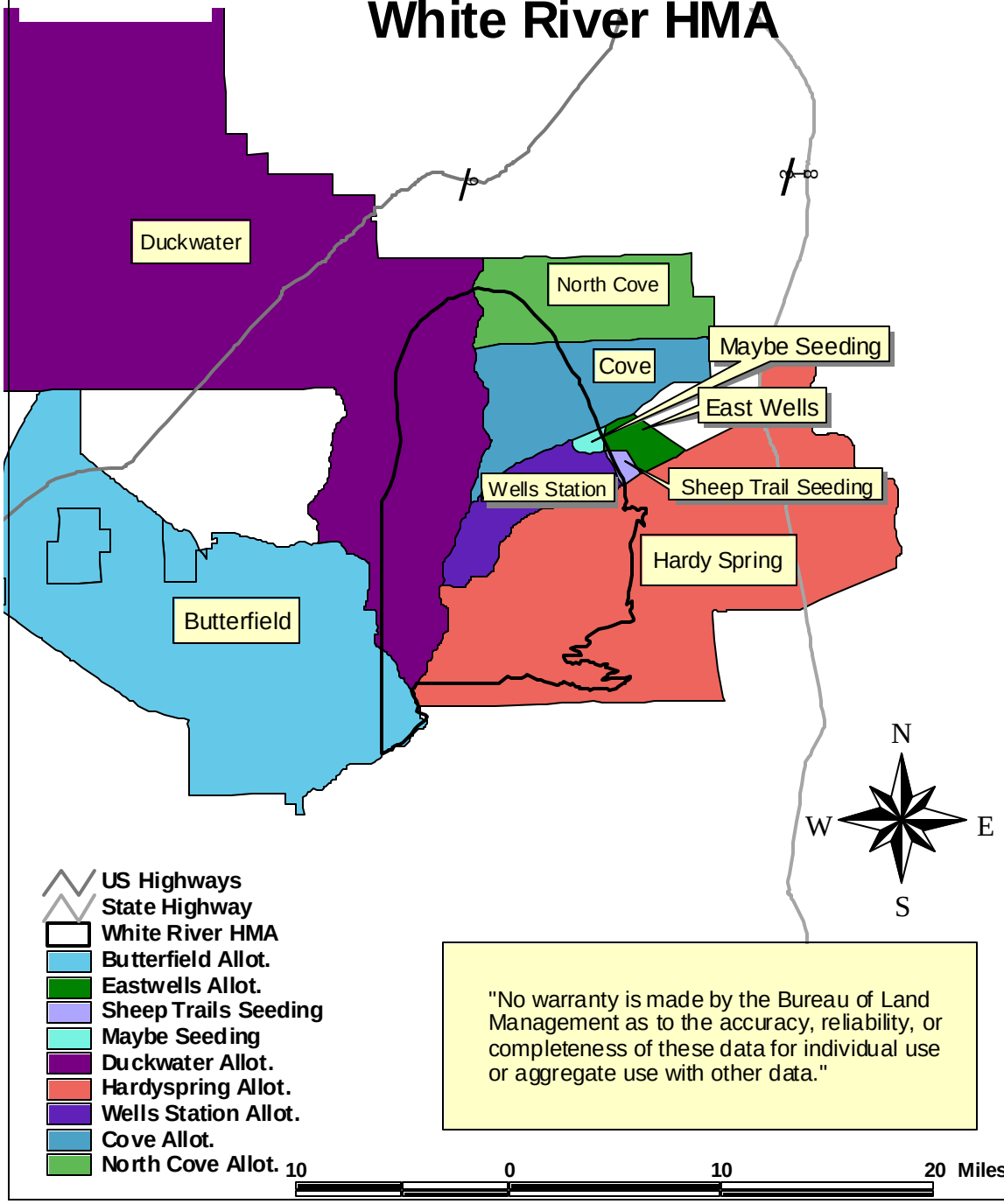
The HMA has not been inventoried for noxious weeds.

G. Cultural Resources

A cultural resources survey of the HMA has not occurred.

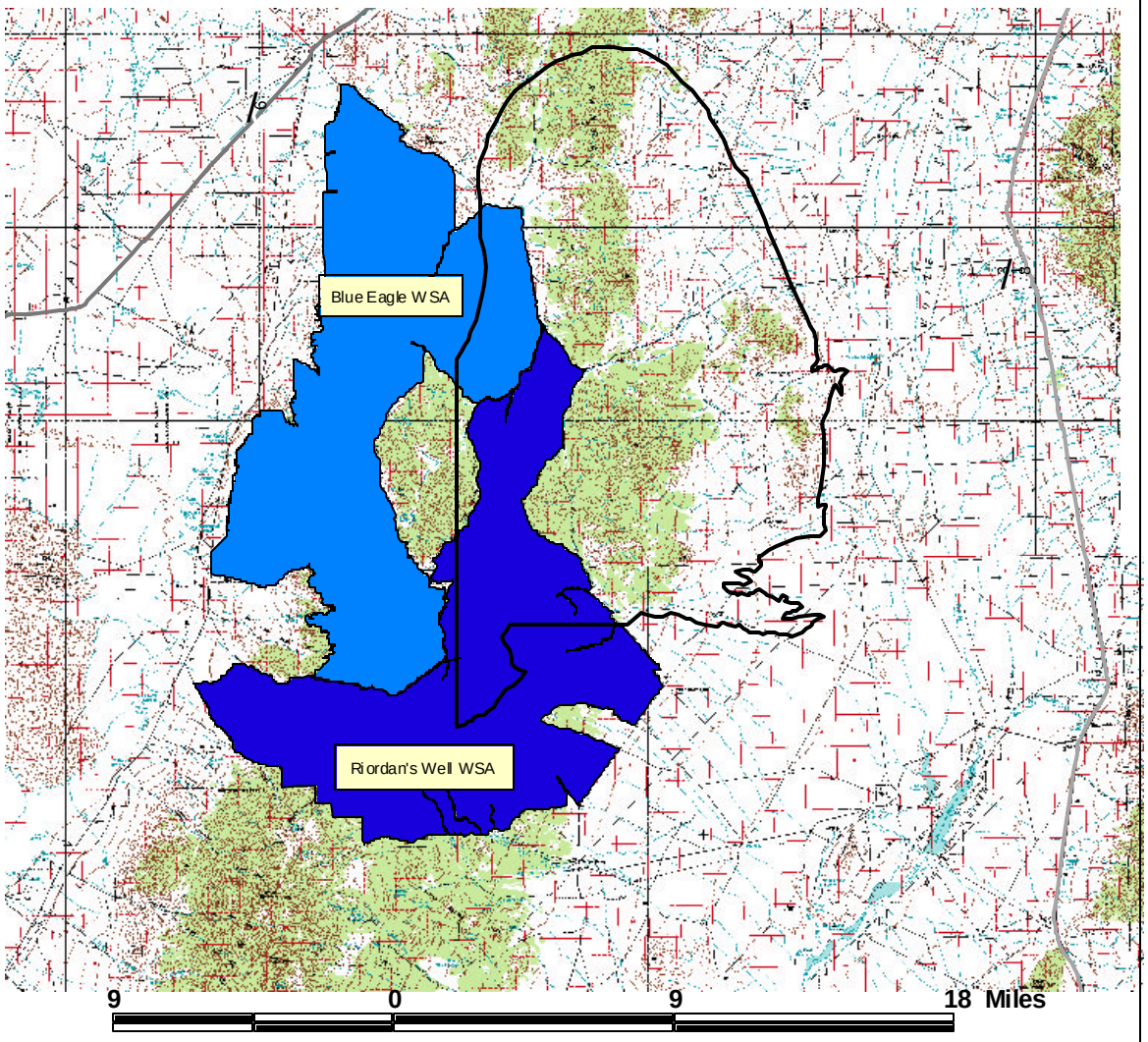
NV-040 12/17/03

Figure 2. Allotments within White River HMA



NV-040 12/17/03

Figure 3. Wilderness Study Areas near White River HMA



State Highways
US Highways
White River HMA
Riordan's Well WSA
Blue Eagle WSA

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IV. Environmental Consequences (Proposed Action & Alternatives)

The following critical elements of the human environment are not present and/or not affected by the proposed action: air quality, areas of critical environmental concern, environmental justice, prime or unique farmland, floodplains, Native American religious concerns, water quality, hazardous and solid wastes, visual resource management, wetlands, or wild and scenic rivers.

A. Wild Horses

Proposed Action - Impacts to wild horses may occur as a result of handling stress associated with the gather, capture, processing, and transportation of animals. The intensity of these impacts varies by individual and is indicated by behaviors ranging from nervous agitation to physical distress. Mortality to individuals from this impact is infrequent but does occur in one half to one percent of horses gathered in a given gather.

Indirect impacts can occur to horses after the initial stress event, and may include increased social displacement, and increased conflict between studs. These impacts are known to occur intermittently during wild horse gather operations. Traumatic injuries may occur, and typically involve biting and/or kicking bruises, which don't break the skin. The occurrence of spontaneous abortion events among mares following capture is very rare.

Population-wide impacts can occur during or immediately following implementation of the proposed action. They include displacement of horse bands during capture and the associated re-dispersal, modification of herd demographics (age and sex ratios), temporary separation of members of individual bands of wild horses, re-establishment of bands following releases, and the removal of animals from the population. These impacts, with the exception of herd demographic changes, have proven to be temporary in nature with most impacts disappearing within hours to several days of release. Observations of animals following release have shown horses relocate themselves back to their home ranges within 12 to 24 hours of release and sometimes much faster. No observable effects associated with the gather impacts would be expected within one month of release except a heightened shyness toward human contact.

The effect of removal of wild horses from the population would not be expected to have noticeable impact on herd dynamics or population variables as long as the selection criteria for the removal ensured a "typical" population structure was maintained. Implementing the selective removal criteria would allow for correction of any existing discrepancies in sex ratios. Wild horses would be released to provide a more natural sex ratio.

Population-wide genetic viability impacts would not appear immediately as a tangible effect. Subsequent genetic sampling during future gathers compared against the baseline genetic data collected during this proposed gather would quantify the genetic diversity and health of the White River herd. Conservation biologists Frankel and Soule' estimated genetic effective number, or the portion of the total population that contributes genetically to the next generation, to be a minimum population of 50 breeding individuals. This minimum of 50 breeding adults would be the lowest population and the highest level of inbreeding that would be allowed by

managers (Singer and Schoenecker) while still retaining genetic diversity. Since 54 wild horses would be released, being of six to nine years of age, as well as an even sex ratio, enough caution would be used during the gather to minimize the effect of a loss of genetic diversity that could lead to genetic drift or produce un-healthy wild horses. Although not all of the 54 wild horses may be reproducing in any one given year, if genetic diversity is determined to be a concern, augmentation with one wild horse from a separate population per generation has been shown to maintain genetic diversity.

Population modeling was completed for the proposed action in order to determine future herd demographics and population growth. Modeling indicates that the average wild horse population growth rate of the median of 100 trials should be 21% over four years. The average population size of the median of 100 trials would be 160 wild horses. Modeling indicates that reducing wild horse numbers to 54 would not put the population at risk of catastrophic loss or "crash". Refer to Appendix II for population modeling summary graphs.

Under the Proposed Action, the wild horse population in the White River HMA would be reduced to 54 animals. The implementation of the Proposed Action would prevent the population from increasing beyond AML during the next three years. The next gather, which would be scheduled in approximately four years, would reduce horse numbers the year that they exceed the AML. This would ensure a healthy, vigorous, and viable breeding population, reduce stress on vegetative communities and wildlife, and be in compliance with the Wild Free Roaming Horse and Burro Act, Resource Advisory Council Standards and Guidelines, and land use plan management objectives. The above impacts are likely to occur, but to fewer animals in the long term because less horses would need to be gathered, and less frequently. Removing wild horses to 54 head would result in the HMA achieving a "thriving natural ecological balance" until the fourth year. Risks to the health of the rangelands by exceeding the carrying capacity of the range, and risks to the health of the horse herds would be minimized. Horses would not be at risk of death by starvation and lack of water due to unpredictable weather patterns. Fighting among stud horses would decrease as they less frequently protect their position at scarce water sources, as well as injuries and death to all age classes of animals. As populations are managed within capacity of the habitat, bands of horses would be less likely to leave the boundaries of the HMA seeking forage and water, which in turn may put them at risk in new and unfamiliar country.

Alternative I - Alternative I would have the same impacts as the proposed action at the time of the gather, as well as reducing the short-term fecundity of initially a large percentage of mares in a population.

This one-shot application, applied at the capture site, will not affect normal development of the unborn fetus, hormone health of the mare or behavioral responses to stallions, should the mare already be pregnant when vaccinated (Kirkpatrick, 1995). The vaccine was also proven to have no apparent effects on pregnancies in progress, the health of offspring, or the behavior of treated mares (Turner, 1997). The PZP two-year vaccine has shown effectiveness for up to 22 months. If mares are inoculated during the winter months (November 1st through February 28th), the vaccine would have 98% effectiveness the first year, 82% the second year, and 68% the third

year. In the case of the White River HMA, only two years of effectiveness is expected because the mares would be inoculated during summer months, rendering the drug nearly ineffective the third year (2007). Research on this drug for summer application has not been conducted and the percent effectiveness is expected to be less than winter application. With a 22 month effect, this vaccine is expected to be effective the first breeding season, but then wear off half-way through the 2006 breeding season. This should prevent a majority of the mares from foaling in 2006. It is unknown whether during the 2006 breeding season when the drug wears off, if some of the mares would be prevented from breeding, or if all mares would then breed. The potential reprieve from foaling would greatly increase overall health and fitness of the mares, as well as the health of the foals born in 2007 and thereafter. The increased health and condition of the mares would lead to more mares than usual being bred after their foaling reprieve, leading to a "surge" in population.

Mares receiving the inoculation would experience slightly increased stress levels from increased handling while being inoculated and freeze branded. There would be additional impacts to animals at the isolated injection site following the administration of the fertility control vaccine. Injection site injury associated with fertility control treatments is extremely rare in treated mares, and may be related to experience of the administrator. The injection would be controlled, handled and administered by a trained BLM employee, researcher or veterinarian. Any direct impacts associated with fertility control are expected to be minor in nature and of short duration. The mares would quickly recover once released back to the HMA.

The use of fertility control under Alternative I is not expected to have any long-term significant direct, or indirect impacts to the White River HMA genetic health, long-term viability or future reproductive success of mares within the herd. Among mares, PZP contraception appears to be completely reversible, and to have no ill effects on ovarian function if the mare is not administered the contraception vaccine for more than 3 consecutive years. Implementation of fertility control is expected to improve the health of the mares within the HMA, and improving the health of the foals born to those mares in the future. Improved condition of the mares and foals would aid in the long-term health and viability of the White River HMA wild horse population. Reduced growth rates that would occur with the implementation of fertility control would influence herd size at any one point in time, reducing competition for resources and utilization levels of those resources. Reduced growth rates would increase the interval between gathers, having overall beneficial impacts to the entire wild horse population, while contributing to the achievement and maintenance of a "thriving natural ecological balance" until the fourth year. This alternative would have the same impacts to herd viability as the proposed action.

Population modeling indicates that the average (median) growth rate of the herd should be 12.1% over four years. The average of 100 trials indicates that the median population would be 142 wild horses (Appendix II). Modeling indicates that implementation of fertility control would not put the population at risk of catastrophic loss or "crash".

No Action Alternative - Under this alternative, wild horses would not be removed from the White River HMA. The horses would not be subject to any individual direct or indirect impacts described in the Proposed Action as a result of a gather operation. However, allowing horse

numbers to increase unchecked would have several negative consequences to the animals, including starvation, dehydration, and social stress. Wild horses are a long-lived species with documented survival rates exceeding 92% for all age classes. Predation and disease do not substantially regulate wild horse population levels. This would lead to increasing wild horse populations with only forage, water, and space availability to limit the horse numbers.

The no action alternative would result in a steady increase in wild horse numbers, which would exceed the carrying capacity of the range. Consequences of exceeding the established AML and the carrying capacity of the range would be increased risk to the health of the rangelands, and risk to horse herd health. Individual horses would be at risk of death by starvation and lack of water. The population of wild horses would compete for the available water and forage resources. The mares and colts would be affected most severely. Fighting among stud horses would increase as they protect their position at scarce water sources, as well as injuries and death to all age classes of animals. The areas closest to the water would experience severe utilization and degradation. Over the course of time, the animals would deteriorate in condition as a result of declining forage availability and the increasing distance traveled to forage. Many horses would likely die through the winter if average snowfall levels are received, especially foals and mares. As populations increase beyond the capacity of the habitat, bands of horses may leave the boundaries of the HMA seeking forage and water, which in turn may put them at risk in new and unfamiliar country. The health of the wild horse herd population would be reduced, the condition of the range would deteriorate, and other range users would be impacted. Further, heavy forage use would degrade rangeland resources. Rangeland in poor ecological health provides less forage, and is susceptible to invasion by non-native weeds. Soil health and future productivity of the rangeland would decline.

The average of 100 population modeling trials indicates that if the current wild horse population continues to grow without a removal the median population size would be 519 wild horses. Modeling indicates the average growth rate is expected to be a 15.7% annual increase (Appendix II).

B. Vegetation, Soil, and Water

Proposed Action - Impacts to vegetation with implementation of the Proposed Action could include disturbance of native vegetation immediately in and around temporary trap sites, and holding and processing facilities. Impacts could be by vehicle traffic and the hoof action of penned horses, and could be locally severe in the immediate vicinity of the corrals or holding facilities. Generally, these activity sites would be small (less than one half acre) in size. Since most trap sites and holding facilities would be re-used during recurring wild horse gather operations, any impacts would remain site-specific and isolated in nature. In addition, most trap sites or holding facilities are selected to enable easy access by transportation vehicles and logistical support equipment and would generally be adjacent to or on roads, pullouts, water haul sites, or other flat spots that were previously disturbed. By adhering to the SOPs, adverse impacts to soils would be minimized.

Implementation of the Proposed Action would reduce the wild horse population. It would prevent the population from increasing beyond AML and would achieve a "thriving natural ecological balance" during the next three years. This would reduce stress on vegetative communities, and be in compliance with the Wild Free Roaming Horse and Burro Act, Resource Advisory Council Standards and Guidelines, and land use plan management objectives. Vegetative resources, including riparian areas, would improve with the reduced population. Vegetative species would not experience over-utilization by wild horses, which would lead to healthier, more vigorous forage plants. This would result in an increase in forage availability, vegetation density, reproduction, and productivity.

Impacts of hoof action on the soil around unimproved springs and stream banks would be lessened, which should lead to increased stream bank stability and improved riparian habitat conditions. There would also be a reduction in hoof action on upland habitats and reduced competition for available water sources.

Alternative I - Impacts to vegetation, soil, and water at the time of the gather would be the same as in the Proposed Action. Vegetative recovery is expected to be the same as the proposed action within the first two years. However, with the surge in wild horse population growth in the third year due to compensatory reproduction, vegetative recovery would be slowed.

No Action Alternative - The severe localized trampling associated with trap sites would not occur, however, as wild horse populations continue to grow, soil erosion throughout the HMA would increase. Increased horse use throughout the HMA would adversely impact soils and vegetation health, especially around the water locations. As native plant health deteriorates and plants are lost, soil erosion would increase. The shallow soils typical of this region cannot tolerate much loss without losing productivity and thus the ability to be re-vegetated with native plants. Invasive, non-native plant species would increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. This would lead to both a shift in plant composition towards weedy species and an irreplaceable loss of topsoil and productivity from erosion. Eventually, the loss of vegetation and soil would prevent any grazing of large ungulates.

C. Wildlife, Special Status Species, and Migratory Birds

Proposed Action – Wildlife adjacent to the trap sites could be temporarily displaced. This displacement would be due to the noise of the helicopter and increased traffic. These disturbances would occur during the capture period. Reduction of wild horse numbers would result in reduced competition with wildlife as soon as the gather is completed. A "thriving natural ecological balance" would be maintained until the fourth year. This would result in improved habitat conditions by increasing forage availability and quality. In addition, it would reduce competition between wild horses and wildlife for available forage and water resources. Disturbance associated with wild horses along stream bank riparian habitat and adjacent upland habitat would be reduced. No impacts would occur to migratory birds because the gather would not occur during the nesting period.

Alternative I - This alternative would have the same impacts as the proposed action. However, the surge in wild horse populations the third year would slow the improvement in wildlife habitat.

No Action Alternative - Wildlife would not be temporarily displaced or disturbed under the no action alternative. There would be continued competition with wild horses for water and forage resources. This competition would increase as wild horse numbers increased annually. Wild horses are aggressive around water sources, and some wildlife species may not be able to compete. The competition for resources may lead to increased stress and possible dislocation or death of native wildlife species.

D. Livestock

Proposed Action - The only area where livestock may be actively grazing during the time of the gather is in the Lower Cove area of the Hardy Spring Allotment. All other portions of the HMA have winter livestock use. Livestock located near gather activities would be disturbed by the helicopter and the increased vehicle traffic during the gather operation. This displacement would be temporary; and the livestock would move back into the area once gather operations moved. A reduction to 54 wild horses would result in an increase in forage availability and quality, improved habitat condition, and reduced competition between livestock and wild horses for available forage and water resources until the fourth year.

Alternative I - This alternative would have the same impacts as the Proposed Action. However, the surge in wild horse population the third year would slow the forage recovery and increase wild horse and livestock competition.

No Action Alternative - Livestock would not be displaced or disturbed due to gather operations under the No Action Alternative, however, there would be continued competition with wild horses for water and forage resources. As horse numbers increase, livestock grazing may be reduced to prevent further deterioration of the range.

E. Wilderness

Proposed Action - No impacts to wilderness values are anticipated to occur during the gather since all trap sites and holding facilities would be placed outside Wilderness Study Areas. Wilderness values after the gather would be positively affected by a reduction in wild horse numbers as a result of an improved ecological condition of the plant communities and other natural resources. Wilderness values would be positively affected for three years when a "thriving natural ecological balance" is achieved.

*Alternative I - **Alternative I would have the same impacts as the Proposed Action. However, with the surge in wild horse numbers the third year, natural resource improvement would slow, affecting wilderness values.***

No Action Alternative - No impacts to wilderness due to gather operations would occur. Impacts to wilderness values would continue to occur through the continued degradation of vegetative and soil resources by high numbers of wild horses. To some, the sight of heavy horse trails, trampled vegetation and areas of high erosion detract from the wilderness experience.

F. Noxious Weeds and Invasive Non-Native Species

Proposed Action - The proposed gather may spread existing noxious weed species. This could occur if vehicles drive through infestations and spread seed into previously weed-free areas. The contractor together with the contracting officer's representative or project inspector (COR/PI) would examine proposed trap sites and holding corrals prior to construction. If noxious weeds were found, the location of the facilities would be moved. Any off-road equipment that has been exposed to weed infestations would be cleaned before moving into relatively weed free areas. All trap sites, holding facilities, and camping areas would be monitored in the next several years. Despite short-term risks, with the reduction in horse numbers, and the subsequent recovery of the native vegetation, fewer disturbed sites would be available for non-native plant species to invade.

Alternative I - Impacts would be the same as the Proposed Action. However, the surge in wild horse population the third year could slow native vegetation recovery and lead to non-native plant invasion.

No Action Alternative - Under this alternative, the wild horse gather would not take place. The likelihood of noxious weeds being spread by gather operations would not exist. However, overgrazing of the present plant communities could lead to an expansion of noxious weeds and invasive non-native species.

G. Cultural Resources

Proposed Action - No impacts to cultural resources are anticipated to occur since all trap sites and holding facilities would be inventoried for cultural resources prior to construction. An archaeologist would review all proposed trap sites and facility locations (new and previously used locations) to determine if these locations have had a cultural resources inventory, and/or if a new inventory is required (Cultural Resources Needs Assessment NV-8100-9). This review by the archaeologist, which does not normally include fieldwork, will be documented in the Needs Assessment. A District Archeological Technician (DAT) will be on-site during the gather to perform any needed cultural resources inventories. If cultural resources are encountered at proposed trap site(s) or holding facility location(s), those location(s) would not be utilized unless it could be modified to avoid impacts to cultural resources. With reduced horse numbers, there would be less hoof action around riparian spring areas where many cultural resources are found. This could lead to decreased cultural resources damage by wild horses.

Alternative I - The impacts would be the same as the Proposed Action. However, with the surge in wild horse population the third year, the greater horse numbers could damage cultural resource sites.

No Action Alternative - Under this alternative, the wild horse gather would not take place and therefore, no trap sites or holding facilities would be constructed. There would be no possibility that cultural resources would be damaged as a result of horse gather operations, however, high numbers of wild horses could cause damage to cultural resources due to trampling, especially around water sources, where the occurrence of cultural resources is often high.

V. Cumulative Impacts

According to the 1994 BLM *Guidelines For Assessing and Documenting Cumulative Impacts*, the cumulative analysis should be focused on those issues and resource values identified during scoping that are of major importance. Accordingly, the issues of major importance that are analyzed are managing for healthy rangeland and to manage for healthy, viable wild horse herds.

Past Actions

During the 1500's the Spanish explorers brought the modern horse with them from Spain and the rest of Europe. Many of these animals became feral and roamed in the grasslands of the plains as well as isolated mountainous regions of the west where the Spanish had explored or settled. As additional settlers arrived in the western United States, they brought many breeds of horses with them. Each breed was developed for unique tasks or purpose. As these settlers passed through or settled in Nevada, some of these horses became feral or were purposely turned loose on the range and used as a commodity. The wild horses of eastern Nevada are descended from ranch stock, mining draft horses, Calvary mounts and various other breeds.

From the late 1800s until the 1930s many horses were produced on the range for use in the Calvary remount program. Many Arabian and Thoroughbred stallions were released on the range to reproduce with the wild mares in order to obtain progeny that had endurance and other characteristics required by the military. Wild horses on the rangeland were periodically gathered by private individuals. The young animals were sold to the military, and the undesirable stallions and mares were destroyed to eliminate their characteristics from the gene pool. After the Calvary remount program ended, many wild horses were captured to be sold for rendering profits. Wild horses were viewed as a nuisance and/or commodity. Many "mustangers" operated in eastern Nevada, capturing wild horses and selling them for slaughter, or keeping a few for personal use.

In 1934 Congress passed the Taylor Grazing Act establishing grazing districts and the Grazing Service. This act was the first step in regulation of grazing use on the public lands. In 1946 the Grazing Service was merged with the General Land Office and the Bureau of Land Management (BLM) was formed. Range improvements and fences to control livestock movements were constructed to improve rangeland conditions. Wild horses were not federally protected and individuals that claimed ownership or mustangers with permission from the BLM continued to use the wild horses for commercial purposes.

Fire suppression efforts, while being effective in reducing fires during the period 1940 through 1960, also allowed fuels to accumulate and to increase the woody fuels. The shift in fuel loading

has reduced the amount of forage available to livestock, wildlife, and wild horses, and has created conditions that result in catastrophic fires where vegetation conversion to annual grasslands is often the aftermath.

In 1959 Congress passed the Wild Horse Annie Act. This act protected wild horses from being captured, harassed or chased with motorized vehicles. In 1971 Congress passed the Wild and Free Roaming Horse and Burro Act. This act proved full protection for wild free-roaming horses and burros. Wild or free-roaming horses that were not claimed for individual ownership were under the protection of the Secretaries of Interior and Agriculture. This act provided protection, but no appropriation authority for management of the wild horses. In 1976 the Federal Land Policy and Management Act (FLPMA) was passed which gave the BLM a direction for management as well as approved appropriation authority for the management of wild and free-roaming horses on the public lands. This act also gave the Secretary the authority to use motorized equipment in the capture of wild free-roaming horses as well as continued authority to inventory the public lands.

Herd Areas were identified in 1971 as areas occupied by wild horses. The HMAs were established in the late 1980s through the land use planning process as areas where wild horse management was a designated land use. Since the mid-1980s, AMLs have been established on the Ely BLM District HMAs.

The Wild and Free-Roaming Horse and Burro Act was amended in 1978 through the Public Range Improvement Act, by allowing the Secretary to place excess wild horses into private ownership or adopt these animals to the citizenry of the United States in order to improve the condition of the public lands through wild horses removals.

The BLM also moved to long range planning with the development of the Caliente Grazing EIS, the Schell Grazing EIS and the Egan RMP/EIS. These EISs analyzed impacts of the Land Use Plan's management direction for grazing and wild horses, as updated through Bureau policies, Rangeland Program direction, and Wild Horse Program direction. Forage was allocated within the allotments for livestock use and range monitoring studies were initiated to determine if allotment objectives were being achieved, or that progress toward the allotment objectives were being made.

Due to these laws and subsequent court decisions, integrated wild horse management and one removal has occurred in the White River HMA. Wild horses were removed in 1996 when over-populated and horse health and drought conditions reached a point where an emergency gather was justified. Resource conditions have been negatively affected due to excess wild horses and conversely resource conditions improved due to wild horse removals. Appropriate Management Level determinations for the White River HMA have been established through five separate decisions from 1992 through 1997. AML was established at 90 wild horses in order to achieve a "thriving natural ecological balance".

Similarly, adjustments in livestock season of use, livestock numbers, and grazing systems were made through the allotment evaluation/MUD process. In addition, temporary closures to

livestock grazing in areas burned by wildfires, or due to extreme drought conditions, were implemented to improve range condition.

The Mojave/Southern Great Basin Resource Advisory Council developed standards and guidelines for rangeland health that have been the basis for managing wild horse and livestock grazing within the Ely District. In 2003, a standard and guideline specifically for wild horse and burros was developed and approved. Adjustments in numbers, season of use, grazing season, and allowable use are based on evaluating progress toward reaching the standards.

Present Actions

Today the White River HMA has an estimated population of 343 wild horses. Resource damage is occurring due to this excess of animals and wild horses are moving into non-HMA areas. Current BLM policy is to conduct removals targeting portions of the wild horse population based upon age, and allowing the correction of any sex ratio problems that may occur. Further, the BLM is mandated to conduct gathers in order to facilitate a four-year gather cycle. Program goals have expanded beyond establishing a *"thriving natural ecological balance"* (by setting appropriate management level (AML)) for individual herds, to include achieving and maintaining healthy, viable, vigorous, and stable populations.

Current mandates prohibit the destruction of healthy animals that are removed or deemed to be excess. Currently only sick, lame, or dangerous animals can be euthanized, and destruction is no longer used as a population control method. This has led to gather intervals that are longer than the desired four years due to a lack of facility space and funding.

Today public interest in the welfare and management of wild horses is currently higher than it has ever been. Many different values pertaining to wild horse management form current wild horse perceptions. Wild horses are viewed as nuisances, as well as living symbols of the pioneer spirit.

The Ely BLM has also modified grazing permits and conducted vegetation treatments to improve watershed health. Currently within the White River HMA there is sheep and cattle livestock grazing use occurring on a yearly basis.

The focus of wild horse management has also expanded to place more emphasis on achieving rangeland health as measured through the RAC standards and guidelines

Reasonably Foreseeable Future Actions

In the future, the BLM would manage wild horses within a population range for established AMLs, while maintaining genetic diversity, age structure, and sex ratios. Current policy is to express all future wild horse AMLs as a range, to allow for regular population growth, as well as better management of populations rather than individual HMAs. The Ely BLM District is in the process of writing a new Resource Management Plan that will analyze AMLs expressed as a range. Future wild horse management would focus on an integrated ecosystem approach with the

basic unit of analysis being the watershed. Wild horses would continue to be a component of the public lands, managed within a multiple use concept within the White River HMA.

While there is no anticipation that there will be amendments to the Wild and Free-Roaming Horse and Burro Act that would change the way wild horses could be managed on the public lands, the Act has been amended twice since 1971. Therefore, there is potential for an amendment as a reasonably foreseeable future action. However, if changes in the Act that relate to the disposal of excess wild horses or sanctuaries outside of the United States are authorized; gathers and removals should become more predictable due to facility space. This should increase stability of gather schedules, which would result in the White River HMA being gathered every four years. Fertility control should also become more readily available as a management tool, with treatments that last between gather cycles, reducing the need to remove as many wild horses. If there are no future amendments to the Act, and no changes in funding levels for the wild horse program, then few changes in on-the-ground management would occur.

An Ely BLM District Resource Management Plan, which includes Great Basin Restoration, has been initiated and is scheduled to be completed in 2005. Wild horse management for the White River HMA will be addressed on a programmatic basis. The Ely Field Office would continue to conduct monitoring to assess progress toward meeting rangeland health standards.

Impacts

Past actions regarding the management of wild horses have resulted in the current wild horse population within the White River HMA. Wild horse management has contributed to the present resource condition and wild horse herd structure within the gather area.

Cumulatively, the wild horses within the White River HMA make up a small portion of the total wild horse population within the Ely District and the BLM as a whole. In the White River HMA wild horses would continue to be one of the multiple users of the public lands.

With regard to the two major issues, that of managing for healthy rangelands and to manage for healthy, viable wild horse herds as mandated by the Act, the Proposed Action and Alternative 1 would be more likely to provide conformance with the standards and guidelines for rangeland health, as well as achieving horse health and condition. Under the No Action Alternative, progress toward achieving the standards and horse health would not begin until AML can be achieved.

The combination of the past, present, and reasonably foreseeable future actions, along with the proposed action, should result in more stable wild horse populations, healthier rangelands, healthier wild horses, and fewer multiple-use conflicts within the White River HMA.

VI. Mitigation Measures and Suggested Monitoring

The standard operating procedures incorporate all necessary monitoring. No additional monitoring is warranted.

VII. Consultation and Coordination

Public hearings are held annually on a state-wide basis regarding the use of helicopters and motorized vehicles to capture wild horses (or burros). During these meetings, the public is given the opportunity to present new information and to voice any concerns regarding the use of these methods to capture wild horses (or burros). Additional consultation and coordination relative to the proposed action includes posting the proposed action on the BLM Ely Field Office's website (http://www.nv.blm.gov/ely/nepa/ea_list.htm) May 17th, and posting the full EA on May 24th for a 30 day public scoping period. The proposed action was to be presented at a Native American Consultation Meeting on May 19th, but due to low turnout, information describing the proposed action will be mailed to the Native American tribes. The Preliminary EA was mailed to the following list of people on May 21, 2004:

CC:	Certified No. Returned Receipt Requested
Blue Eagle Ranch	7002 0510 0001 2708 7839
Dave & Linda Woolfolk	7002 0510 0001 2708 7822
RWD Currant Creek LLC	7002 0510 0001 2708 7815
Paris Livestock	7002 0510 0001 2708 7808
Carter Cattle Co., Steve Carter	7002 0510 0001 2708 7792
Duckwater Shoshone Tribe	7002 0510 0001 2708 7785
Ernest H. Gubler Incorporated, Janice Wilfong	7002 0510 0001 2708 7778
Duckwater Cattle Co.	7002 0510 0001 2708 7761
Denny Manzonie	7002 0510 0001 2708 7754
Gary Sprouse, Blue Diamond Oil Corporation	7002 0510 0001 2708 7747
Bruce & Pamela Jensen	7002 0510 0001 2708 7730
Charles Baun, URS Corp	7002 0510 0001 2708 7723
Mr. Steven J. Carter, Carter Cattle Company	7002 0510 0001 2708 7716
Friends of Nevada Wilderness	7002 0510 0001 2708 7709
Steve Foree, NDOW	7002 0510 0001 2708 7693
Andrea Lococo, The Fund For Animals	7002 0510 0001 2708 7686
Brad Hardenbrook, NDOW	7002 0510 0001 2708 7679
John McLain, Resource Concepts, Inc	7002 0510 0001 2708 7662
Betsy Macfarlan, ENLC	7002 0510 0001 2708 7655
Katie Fite, Western Watersheds	7002 0510 0001 2708 7648
Mike Scott, NDOW	7002 0510 0001 2708 7631
Mr. Lucas Phillips, Ely Ranger District	7002 0510 0001 2708 7624
USFS, Southern Nevada Field Office	7002 0510 0001 2708 7617
Jule Wadsworth	7002 0510 0001 2708 7600
Nevada State Clearinghouse, Department of Admin.	7002 0510 0001 2708 7594
Mr. Frank Reid	7002 0510 0001 2708 7587
Carl Slagowski	7002 0510 0001 2708 7570
Mr. Jim Baumann	7002 0510 0001 2708 7563
Ken Conley	7002 0510 0001 2708 7556

Eureka County Natural Resources Dept.	7002 0510 0001 2708 7549
Fish Creek Ranch, LLC	7002 0510 0001 2708 7532
Art Gale	7002 0510 0001 2708 7525
George Lea, President	7002 0510 0001 2708 7518
Mr. Jerry McGuire, White River Ranch, LLC	7002 0510 0001 2708 7501
Mike Podborny, NDOW	7002 0510 0001 2708 7495
White Pine Sportsmen	7002 0510 0001 2708 7488
Wade Robison, WP County Wildlife Advisory Board	7002 0510 0001 2708 7471
Wild Horse Organized Assistance	7002 0510 0001 2708 7464
Mr. Jerry Millet, Tribal Manager	7002 0510 0001 2708 7457
Te-Moak Tribe of Western Shoshone	7002 0510 0001 2708 7440
Mr. David Pete, Chair, Goshute Tribal Council	7002 0510 0001 2708 7433
Wild Horse Organized Assistance	7002 0510 0001 2708 7426
National Wild Horse Association	7002 0510 0001 2708 7419

Internal District Review

Jody Nartz	Wild Horses/Author
Jared Bybee	Wild Horses
Karen Prentice	Invasive, Non-Native Species
Steve Leslie	Wilderness Values
Carolyn Sherve-Bybee	Archeological/Historic/Paleontological
Paul Podborny	Migratory Birds, Special Status Species
Chris Hanefeld	Public Affairs
Susan Baughman	Environmental Coordination
Elvis Wall	Native American Religious Concerns/Tribal Coordination
Grant Hoggan	Range
Mark Lowrie	Range
Troy Grooms	Range

APPENDIX I

STANDARD OPERATING PROCEDURES

Gathers would be conducted by contractors or agency personnel. The same procedures for gathering and handling wild horses and burros apply whether a contractor or BLM personnel are used. The following stipulations and procedures will be followed to ensure the welfare, safety and humane treatment of the wild horses and burros (WH&B) in accordance with the provisions of 43 CFR 4700.

Gathers are normally conducted for one of the following reasons:

1. Regularly scheduled gathers to obtain or maintain the Appropriate Management Level (AML).

2. Drought conditions that could cause mortality to WH&B due to the absence of water or forage, and where continued grazing may result in a downward trend to the vegetative communities due to plant mortality and reduced vigor and productiveness.

3. Fires that remove forage to the extent that there is inadequate forage to sustain the population or to allow recovery of native vegetation.

4. Utilization levels that reach a point where a continued increase in utilization would cause a downward trend in the plant communities and impede meeting standards for rangeland health.

5. Monitoring indicates that WH&B use would begin to cause a downward trend in riparian function or not permit the recovery of riparian vegetation determined to be in undesirable condition.

A. Capture Methods used in the Performance of a Gather - Contract Operations

1. Helicopter - Drive Trapping

   Capture attempts may be accomplished by utilizing a helicopter to drive animals into a temporary trap. If this method is selected the following applies:

   a. A minimum of two saddle-horses shall be immediately available at the trap site to accomplish roping if necessary. Roping shall be done as determined by the BLM. Under no circumstances shall animals be tied down for more than one hour.
   b. The contractor shall assure that bands remain together, and that foals shall not be left behind.

c. A domestic saddle horse(s) may be used as prada (or "Judas") horse to lead the wild horses into the trap site. Individual ground hazers may also be used to assist in the gather.

2. Helicopter - Roping

Capture attempts may be accomplished by utilizing a helicopter to drive animals to ropers. If this method is selected the following applies:

a. Under no circumstances shall animals be tied down for more than one hour.

b. The contractor shall assure that bands remain together, and that foals shall not be left behind.

B. BLM Conducted Gather - Non-Contract Operations

1. Gather operations will be conducted in conformance with the Wild Horse and Burro Aviation Management Handbook (March 2000).

2. Two-way radio communication between the helicopter and the ground crew will be maintained at all times during the operation.

C. Safety and Communications

1. The Contractor shall have the means to communicate with the BLM and all contractor personnel engaged in the capture of wild horses and burros utilizing a VHF/FM Transceiver or VHF/FM portable Two-Way radio. If communications are ineffective the government will take steps necessary to protect the welfare of the animals.

a. The proper operation, service and maintenance of all contractor furnished property is the responsibility of the Contractor. The BLM reserves the right to remove from service any contractor personnel or contractor furnished equipment which, in the opinion of the BLM violate contract rules, are unsafe or otherwise unsatisfactory. In this event, the Contractor will be notified in writing to furnish replacement personnel or equipment within 48 hours of notification. All such replacements must be approved in advance of operation by the BLM.

b. The Contractor shall obtain the necessary FCC licenses for the radio system.

c. All accidents occurring during the performance of any delivery order shall be immediately reported to the BLM.

2. Should the helicopter be employed, the following will apply:

   a. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates, applicable regulations of the State in which the gather is located.

   b. Fueling operations shall not take place within 1,000 feet of the animals.

   c. At time of delivery order completion, the contractor shall provide the BLM with a completed copy of the Service Contract Flight Hour Report.

D. Trapping and Care

1. The primary concern of the contractor is the safe and humane handling of all animals captured. All capture attempts shall incorporate the following:

   a. All trap and holding facilities locations must be approved by the BLM prior to construction. The Contractor may also be required to change or move trap locations as determined by the BLM. All traps and holding facilities not located on public land must have prior written approval of the landowner.

   b. A cultural resources investigation by an archaeologist or an archaeological technician would be conducted prior to trap or holding facility construction. If cultural values are found, an alternative site would be selected.

   c. Prior to facility (temporary traps and holding corrals) construction, the proposed locations would be examined for the presence of noxious weeds. If it is determined that noxious weeds are present, the contractor would be instructed to locate the facilities elsewhere. The contractor and his personnel would also be instructed to avoid camping in or driving through noxious weed infestations.

2. The rate of movement and distance the animals travel shall not exceed limitations set by the BLM who will consider terrain, physical barriers, weather, condition of the animals and others factors.

3. All traps, wings, and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and be in accordance with the following:

   a. Traps and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high for horses and 60 inches for

burros, and the bottom rail of which shall not be more than 12 inches from ground level. All traps and holding facilities shall be oval or round in design.

b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered with plywood (without holes) or like material.

c. All runways shall be a minimum of 30 feet long and a minimum of 6 feet high for horses, and 5 feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 5 feet above ground level for burros and 1 foot to 6 feet for horses. The location of the government furnished portable restraining chute to restrain, age, or provide additional care for animals shall be placed in the runway in a manner as instructed by or in concurrence with the BLM.

d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses. Eight linear feet of this material shall be capable of being removed or let down to provide a viewing window.

e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking gates.

4. No fence modifications will be made without authorization from the COR/PI. The Contractor/BLM shall be responsible for restoration of any fence modification.

5. When dust conditions occur within or adjacent to the trap or holding facility, the Contractor/BLM shall be required to wet down the ground with water.

6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, and estrays from the other animals. Animals shall be sorted as to age, number, size, temperament, sex, and condition when in the holding facility so as to minimize, to the extent possible, injury due to fighting and trampling. Under normal conditions, the government will require that animals be restrained for the purpose of determining an animal's age or other similar practices. In these instances a portable restraining chute will be provided by the government. Alternate pens shall be furnished by the Contractor to hold animals if the specific gathering requires the animals be released back into the capture area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the Contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their

traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the BLM.

7. The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day.

8. It is the responsibility of the Contractor/BLM to provide security to prevent loss, injury or death of captured animals until delivery to final destination.

9. The Contractor/BLM shall restrain sick or injured animals if treatment is necessary. A veterinarian may be called to make a diagnosis and final determination. Destruction shall be done by the most humane method available. Authority for humane destruction of wild horses (or burros) is provided by the Wild Free-Roaming Horse and Burro Act of 1971, Section 3(b)(2)(A), 43 CFR 4730.1, BLM Manual 4730 - Destruction of Wild Horses and Burros and Disposal of Remains, and is in accordance with BLM policy as expressed in Instructional Memorandum No. 98-141.

   Any captured horses that are found to have the following conditions may be humanely destroyed:

   a. The animal shows a hopeless prognosis for life.
   b. Suffers from a chronic disease.
   c. Requires continuous care for acute pain and suffering.
   d. Not capable of maintaining a body score of one.
   e. The animal is a danger to itself or others.

10. Animals shall be transported to final destination from temporary holding facilities within 24 hours after capture unless prior approval is granted by the BLM for unusual circumstances. Animals to be released back into the HMA following gather operations may be held up to 21 days or as directed by the BLM. Animals shall not be held in traps and/or temporary holding facilities on days when there is no work being conducted except as specified by the BLM. The Contractor shall schedule shipments of animals to arrive at final destination between 7:00 a.m. and 4:00 p.m. No shipments shall be scheduled to arrive at final destination on Sunday and Federal holidays, unless prior approval has been obtained by the BLM. Animals shall not be allowed to remain standing on trucks while not in transport for a combined period of greater than three (3) hours. Animals that are to be released back into the capture area may need to be transported back to the original trap site. This determination will be at the discretion of the BLM.

11. The BLM will issue a Notice of Intent to Impound Unauthorized Livestock prior to all gathers. Branded or privately owned animals whose owners are known will be impounded by BLM, and if not redeemed by payment of trespass and capture fees, will be sold at public auction. If owners are not known, the private animals will be turned over to the State for Processing under Nevada estray laws.

E. Motorized Equipment

1. All motorized equipment employed in the transportation of captured animals shall be in compliance with appropriate State and Federal laws and regulations applicable to the humane transportation of animals. The Contractor shall provide the BLM with a current safety inspection (less than one year old) for all motorized equipment and tractor-trailers used to transport animals to final destination.

2. All motorized equipment, tractor-trailers, and stock trailers shall be in good repair, of adequate rated capacity, and operated so as to ensure that captured animals are transported without undue risk or injury.

3. Only tractor-trailers or stock trailers with a covered top shall be allowed for transporting animals from trap site(s) to temporary holding facilities, and from temporary holding facilities to final destination(s). Sides or stock racks of all trailers used for transporting animals shall be a minimum height of 6 feet 6 inches from the floor. Single deck tractor-trailers 40 feet or longer shall have two (2) partition gates providing three (3) compartments within the trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing two (2) compartments within the trailer to separate the animals. Compartments in all tractor-trailers shall be of equal size plus or minus 10 percent. Each partition shall be a minimum of 6 feet high and shall have a minimum 5 foot wide swinging gate. The use of double deck tractor-trailers is unacceptable and shall not be allowed.

4. All tractor-trailers used to transport animals to final destination(s) shall be equipped with at least one (1) door at the rear end of the trailer which is capable of sliding either horizontally or vertically. The rear door(s) of tractor-trailers and stock trailers must be capable of opening the full width of the trailer. Panels facing the inside of all trailers must be free of sharp edges or holes that could cause injury to the animals. The material facing the inside of all trailers must be strong enough so that the animals cannot push their hooves through the side. Final approval of tractor-trailers and stock trailers used to transport animals shall be held by the BLM.

5. Floors of tractor-trailers, stock trailers, and the loading chute shall be covered and maintained with wood shavings to prevent the animals from slipping.

6. Animals to be loaded and transported in any vehicle or trailer shall be as directed by the BLM and may include limitations on numbers according to age, size, sex, temperament, and animal condition. The following minimum square feet per animal shall be allowed in all trailers:

   11 sq. ft. per adult horse (1.4 linear ft. in an 8ft. wide trailer);
   6 sq. ft. per horse foal (.75 linear ft. in an 8ft. wide trailer).

7. Prior to any gathering operations, the BLM will provide for a pre-capture evaluation of existing conditions in the gather areas. The evaluation will include animal condition, prevailing temperatures, drought conditions, soil conditions, road conditions, and a topographic map with location of fences, other physical barriers, and acceptable trap locations in relation to animal distribution. The evaluation will determine the level of activity likely to cause undue stress to the animals, and whether such stress would necessitate a veterinarian be present. If it is determined that capture efforts necessitate the services of a veterinarian, one would be obtained before capture would proceed. The Contractor will be informed of all the conditions and will be given directions regarding the capture and handling of animals to ensure their health and welfare is protected.

8. If the BLM determines that dust conditions are such that animals could be endangered during transportation, the Contractor will be instructed to adjust speed.

9. Trap sites will be located to cause as little injury and stress to the animals, and as little damage to the natural resources of the area, as possible. Sites will be located on or near existing roads. Additional trap sites may be required, as determined by the BLM, to relieve stress caused by specific conditions at the time of the gather (i.e. dust, rocky terrain, temperatures, etc.).

F. Animal Characteristics and Behavior

Releases of wild horses would be near available water. If the area is new to them, a short-term adjustment period may be required while the wild horses become familiar with the new area.

G. Public Participation

It is BLM policy that the public will not be allowed to come into direct contact with wild horses or burros being held in BLM facilities. Only BLM personnel, or contractors may enter the corrals or directly handle the animals. The general public may not enter the corrals or directly handle the animals at anytime or for any reason during BLM operations.

H. Responsibility and Lines of Communication

Ely District

Contracting Officer's Representatives
Jared Bybee
Jody Nartz

Project Inspectors
Mike Perkins

The Contracting Officer's Representatives (CORs) and the project inspectors (PIs) have the direct responsibility to ensure the Contractor's compliance with the contract stipulations. The Ely Assistant Field Manager for Renewable Resources and the Ely Field Manager will take an active role to ensure the appropriate lines of communication are established between the field, Field Office, State Office, National Program Office, and PVC Corral offices. All employees involved in the gathering operations will keep the best interests of the animals at the forefront at all times.

All publicity, formal public contact and inquiries will be handled through the Assistant Field Manager for Renewable Resources. This individual will be the primary contact and will coordinate the contract with the PVC Corrals to ensure animals are being transported from the capture site in a safe and humane manner and are arriving in good condition.

The contract specifications require humane treatment and care of the animals during removal operations. These specifications are designed to minimize the risk of injury and death during and after capture of the animals. The specifications will be vigorously enforced.

Should the Contractor show negligence and/or not perform according to contract stipulations, he will be issued written instructions, stop work orders, or defaulted.

APPENDIX II

POPULATION MODELING

Population modeling was completed for the proposed action and the alternatives. One hundred trials were ran, simulating population growth and herd demographics to determine the projected herd structure for the next four years, or prior to the next gather. The computer program used simulates the population dynamics of wild horses. It was written by Dr. Stephen H. Jenkins, Department of Biology, University of Nevada, Reno, under a contract from the National Wild Horse and Burro Program of the Bureau of Land Management and is designed for use in comparing various management strategies for wild horses.

To date, one herd has been studied using the 2-year PZP vaccine. The Clan Alpine study, in Nevada, was started in January 2000 with the treatment of 96 mares. The test resulted in fertility rates in treated mares of 6% year one, 18% year two and 32% year three. This data must be compared to normal fertility rates in untreated mares of 50/60% in most populations. The Clan Alpine fertility rate in untreated mares collected in September of each year by direct observation averaged 51% over the course of the study.

Interpretation of the Model

The estimated population of 343 wild horses, based on a June 2003 census, was used in the population modeling. Year one is the baseline starting point for the model, and reflects wild horse numbers immediately after a gather action, or the lack of action in the case of Alternative III. In this population modeling, year one would be 2004. Year two would be exactly one year in time from the original action, and so forth for years three, four, and five. Consequently, at year five in the model, exactly four years in time would have passed. In this model, year five is 2008. This is reflected in the Population Size Modeling Table by "Population sizes in 5 years" and in the Growth Rate Modeling Table by "Average growth rate in 4 years". Growth rate is averaged over four years in time, while the population is predicted out the same four years to the end point of year five. The Full Modeling Summaries contain tables and graphs directly from the modeling program.

Population Modeling Comparison For the Alternatives

This table compares the projected population growth for the proposed action and the alternatives at the end of the four-year simulation. The population averages are from the median trial.

Modeling Statistic	Proposed Action	Alt. I	Alt. II
Population in Year One	54	54	343
Median Growth Rate	21	12.1	15.7
Average Population	160	142	519
Lowest Average Population	118	102	365

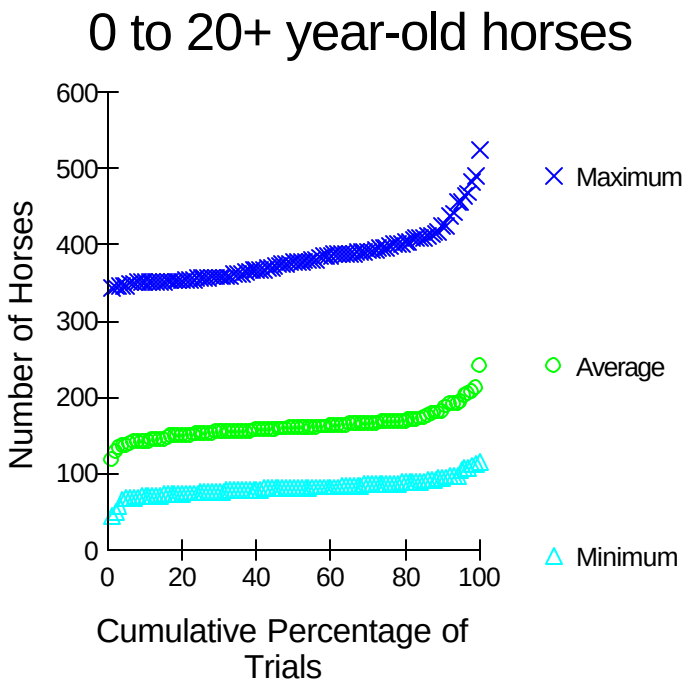
Highest Average Population	241	208	657

Full Modeling Summaries:

Proposed Action: Removal to 54 without Fertility Control
The parameters for the population modeling were:

1. gather when population exceeds 90 animals
2. foals are not included in AML
3. percent to gather 100
4. four years between gathers
5. number of trials 100
6. number of years 4
7. initial calendar year 2004
8. initial population size 343
9. population size after gather 54
10. implement selective removal criteria
11. no fertility control

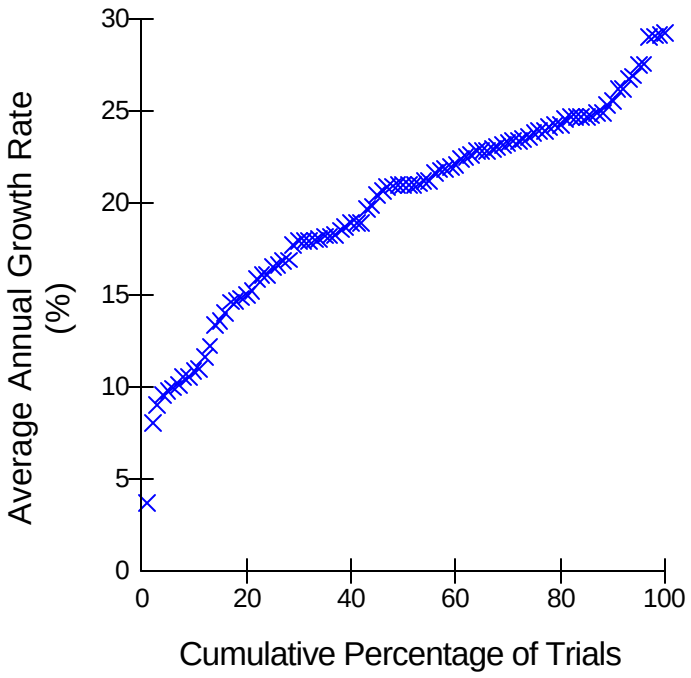
Population Size Modeling Table and Graph



Population Sizes in 5 Years*	Minimum	Average	Maximum
Lowest Trial	46	118	344
10th Percentile	71	142	352
25th Percentile	76	152	356
Median Trial	82	160	377
75th Percentile	87	168	398
90th Percentile	95	185	424
Highest Trial	115	241	525

* 0 to 20+ year-old horses

Growth Rate Modeling Table and Graph



Average Growth Rate in 4 Years	
Lowest Trial	3.7
10th Percentile	10.9
25th Percentile	16.5
Median Trial	21.0
75th Percentile	23.8
90th Percentile	25.9
Highest Trial	29.3

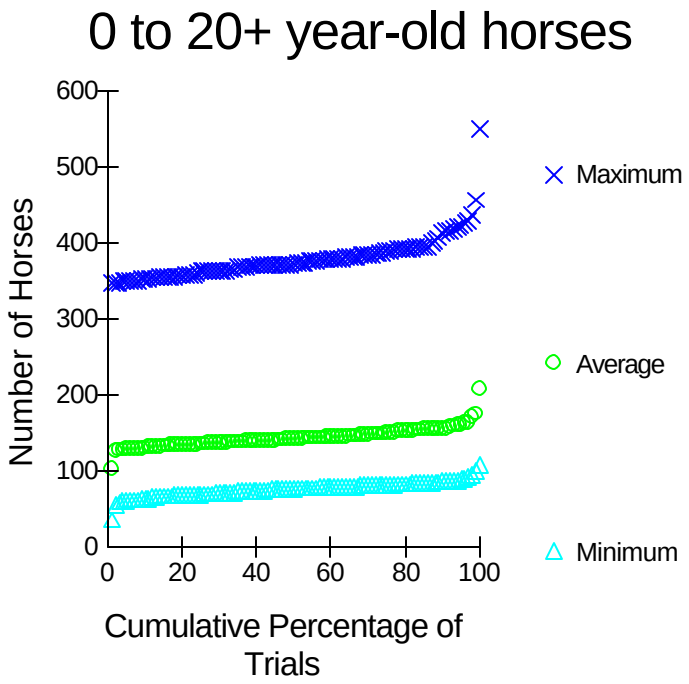
Alternative I: Removal to 54 With Fertility Control

The parameters for the population modeling were:

1-10. same as proposed action

11. treat all mares released with fertility control

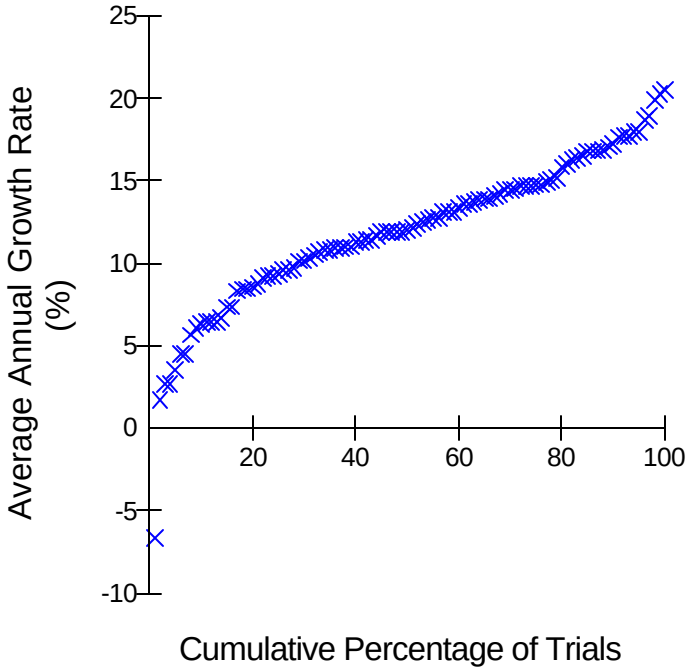
Population Size Modeling Table and Graph



	Population Sizes in 5 Years*		
	Minimum	Average	Maximum
Lowest Trial	35	102	346
10th Percentile	63	130	352
25th Percentile	68	135	362
Median Trial	76	142	372
75th Percentile	81	149	388
90th Percentile	86	155	414
Highest Trial	107	208	549

* 0 to 20+ year-old horses

Growth Rate Modeling Table and Graph



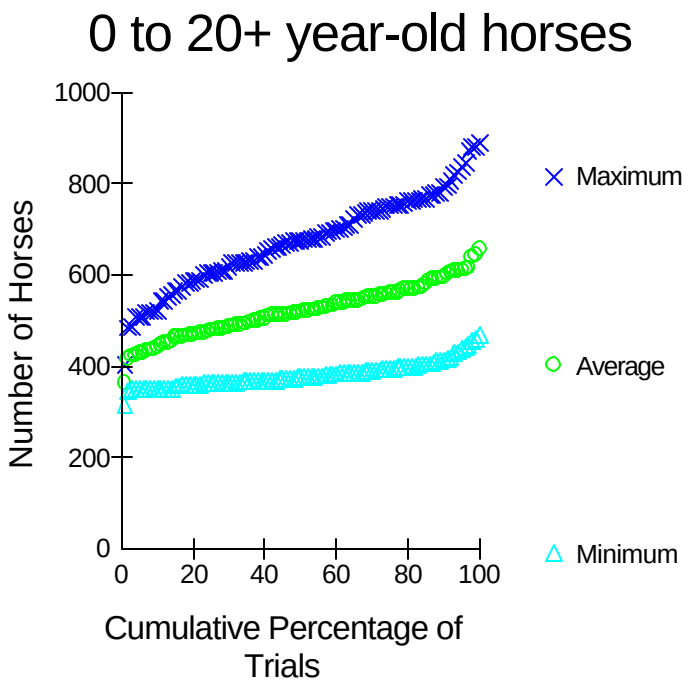
Average Growth Rate in 4 Years	
Lowest Trial	-6.7
10th Percentile	6.3
25th Percentile	9.4
Median Trial	12.1
75th Percentile	14.8
90th Percentile	17.4
Highest Trial	20.5

Alternative II: No Action Alternative

The parameters for the population modeling were:

1. do not gather
2. foals are not included in AML
3. percent to gather 0
4-8. same as in Proposed Action
9. no fertility control

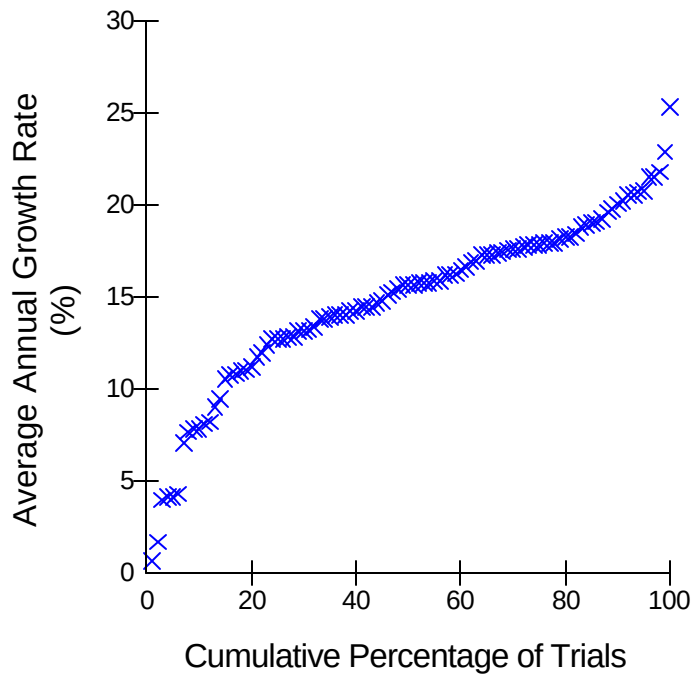
Population Size Modeling Table and Graph



	Population Sizes in 5 Years*		
	Minimum	Average	Maximum
Lowest Trial	315	365	401
10th Percentile	350	444	532
25th Percentile	361	479	604
Median Trial	375	519	676
75th Percentile	395	559	751
90th Percentile	414	600	794
Highest Trial	467	657	890

* 0 to 20+ year-old horses

Growth Rate Modeling Table and Graph



Average Growth Rate in 4 Years	
Lowest Trial	0.6
10th Percentile	7.9
25th Percentile	12.7
Median Trial	15.7
75th Percentile	17.9
90th Percentile	20.1
Highest Trial	25.3

I. Background Information

With passage of the Wild and Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195), Congress found that: *"Wild horses are living symbols of the pioneer spirit of the West"*. In addition, the Secretary of the Interior was ordered to *"manage wild free-roaming horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands"*. From the passage of the Act through present day, the Bureau of Land Management (BLM), Ely Field Office has endeavored to meet the requirements of this portion of the Act. The procedures and policies implemented to accomplish this mandate have constantly evolved over the years.

Throughout this period BLM experience has grown, and the knowledge of the effects of current and past management on wild horses and burros has increased. For example, wild horses have been shown to be capable of 18 to 25% increases in numbers annually (Joel Berger, *Wild Horses of the Great Basin - Social Competition and Population Size*, University of Chicago Press, 1986). This can result in a doubling of the wild horse population about every 3 years. At the same time nationwide awareness and attention has grown. As these factors have come together, the emphasis of the wild horse and burro program has shifted.

Program goals have expanded beyond establishing a *"thriving natural ecological balance"* (by setting appropriate management level (AML)) for individual herds, to include achieving and maintaining healthy, viable, vigorous, and stable populations.

The Strategic Plan for Management of Wild Horses and Burros on Public Lands involves establishing and achieving AML on all Herd Management Areas (HMAs) managed by the BLM, and to achieve and maintain AML on all HMAs following a four-year gather cycle. The numbers of animals projected to be removed, based on this four year rotation, was estimated based on the use of the wild horse population model developed by Dr. Steve Jenkins of the University of Nevada, Reno. Those numbers, by state and year, were first proposed through the President's 2001 budget request as *A Strategy to Achieve Healthy Lands and Viable Herds, The Restoration of Threatened Watersheds Initiative*, and later approved by Congress.

An environmental analysis (EA) of a wild horse gather in the White River HMA was conducted in 1996. This analysis covered the impacts of various removal methods on wild horses and other critical elements of the human environment in order to achieve AML and alleviate drought impacts. One emergency removal in 1996 occurred from that analysis. This analysis is documented in Environmental Assessment for the Seaman and White River HMAs Wild Horse Removal Plan, EA No. NV-040-96-05. At the end of the removal, 56 wild horses were estimated to remain on the range. The HMA was aerially censused in April, 2000, with the population estimated at 201 head, and again in 2003 with 286 wild horses counted. In order for the population to grow to 286 wild horses in 2003 from the population of 66 wild horses in 1997, the average annual population increase over those six years was nearly 28%. The current estimated wild horse population is 343 head or 3.8 times higher than the AML of 90 wild horses.

Monitoring data collected for the HMA since AML was established highlights that utilization by wild horses has increased following the gather in 1996 to heavy to severe in established key areas. Other data illustrating that an over-population of wild horses exists includes trampling damage by wild horses. Horse trails have increased, especially on valley benches where horses trail between water and feeding areas. Wild horses are congregating on key foraging areas, and moving off the HMA during later summer and causing damage to riparian areas. Band size has also increased with sightings of more than 20 animals in one group. This data also shows that an overpopulation of wild horses exists. The current AML of 90 wild horses is appropriate, based on recent review of the AML analysis and data collected since AML was established.

This EA has been prepared to assess the environmental impacts of adjusting the numbers of wild horses within the White River HMA located in the Ely District (Figure 1) at this point in time.

AML for this HMA has been established through the Land Use Planning/Multiple Use Decision process based on monitoring data and following a thorough public review. Documents containing this information are available for public review at the Ely Field Office.

A. Need for Proposal

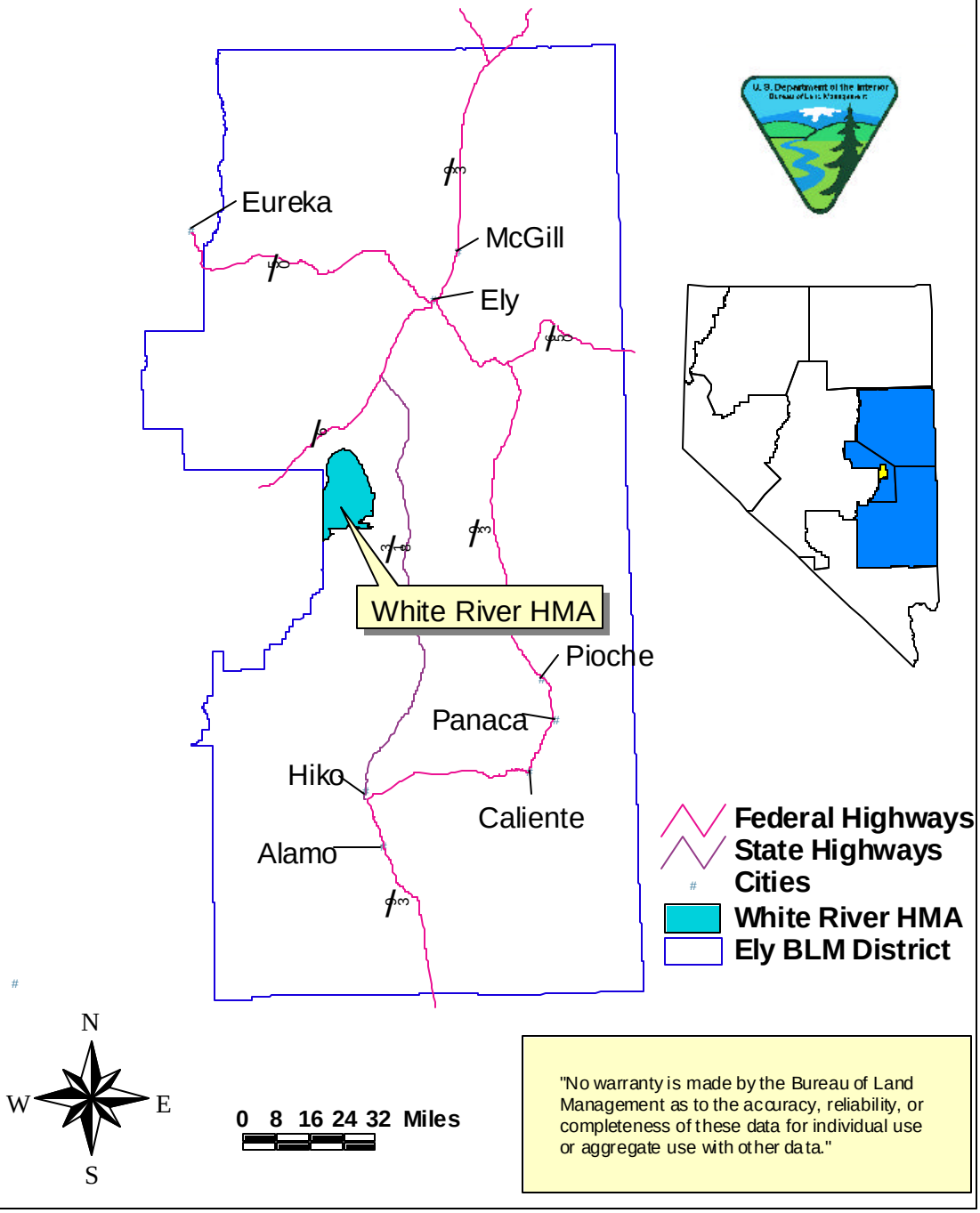
The Ely Field Office is proposing to implement the gather and removal of wild horses to management objectives in the White River HMA. The need for this management action would be to achieve a "thriving natural ecological balance", maintain healthy wild horses, improve watershed health, and "make significant progress" towards achievement of Mojave-Southern Great Basin Resource Advisory Council (RAC) Standards for rangeland health.

BLM has determined that there are excess wild horses present and the Proposed Action is needed in summer 2004 to remove about 289 wild horses to restore wild horse herd numbers to levels consistent with the AML for the HMA.

Vegetation monitoring in relation to use by wild horses in the HMA has determined that current wild horse population levels are exceeding the range's capacity to sustain wild horse use over the long term. Resource damage is occurring and it likely to continue to occur without immediate action. Nevada is in the fourth year of drought with this water year showing an extreme drought in the eastern portion of the state. The proposed capture and removal is needed at this time in order to achieve a thriving natural ecological balance between wild horse populations, wildlife, livestock and vegetation, and to protect the range from the deterioration associated with overpopulation of wild horses as authorized under Section 3(b) (2) of the 1971 Free-Roaming Wild Horses and Burros Act and Section 302(b) of the Federal Land Policy and Management Act of 1976.

NV-040 12/17/03

Figure 1. Location of White River HMA



"No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data."

B. Gather Plan Objectives

The objectives for the White River HMA Gather Plan are:

8. *Restore and maintain a thriving natural ecological balance to the range, meet RAC standards for rangeland health, and protect the range from the deterioration associated with overpopulation.*

9. *Reduce reproductive rates to levels that would accommodate a minimum 4-year gather schedule allowing for maintenance of AML.*

10. *Ensure the health and viability of the White River HMA wild horse population.*

11. *Re-establish the pre-selective removal gather sex distribution toward a more "natural" distribution (50/50).*

12. *Prevent unavoidable pain and suffering through deterioration of the health, and subsequent death of wild horses, due to shortages of forage and water as a result of drought conditions and overpopulation of the herd in excess of the capability of the habitat to support it.*

13. *Re-establish or maintain herd characteristics, which were typical of the herd at the time of the passage of the Act.*

14. *Maintain the genetic diversity of the White River HMA herd.*

C. Relationship to Planning

The White River Wild Horse Gather is subject to the Schell Management Framework Plan (MFP), Schell Grazing Environmental Impact Statement (EIS), and subsequent Record of Decision (ROD) dated 1983, and the Egan Resource Management Plan (RMP) and Final Environmental Impact Statement (FEIS) dated December 24, 1983, and resolution of protests received on the proposed RMP and FEIS documents dated September 21, 1984, and the Egan Resource Area Record of Decision (ROD) which was finalized February 3, 1987. The proposed wild horse gather is in conformance with these plans because it is clearly consistent with the goals and objectives of the approved land use plans.

The proposed action is also consistent with the Wild Free Roaming Horse and Burro Act of 1971, which mandates the Bureau to *"prevent the range from deterioration associated with overpopulation*", and "*remove excess horses in order to preserve and maintain a thriving natural ecological balance and multiple use relationships in that area"*. Additionally, Promulgated Federal Regulations at Title 43 CFR 4700.0-6 (a) state "*Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat* (emphasis added)." It is also consistent with the Strategic Plan for Management

of Wild Horses and Burros on Public Lands, dated June 1992, which states, *"Provide for management of Wild Horse and Burro populations through a variety of techniques that may be used singly or in combination to ensure habitat is maintained and animals living on the land are in concert with the natural ecosystem and other users of the land."*

In addition, it is consistent with the Mojave-Southern Great Basin RAC Standards for Rangeland Health. The action is consistent with local plans to the maximum extent possible. The Nye County policy is that *"wild horse and burro herds should be managed at reasonable levels to be determined with public involvement and managed in consideration of needs of other wildlife species and livestock grazing."* It is consistent with federal, state, and local laws; federal regulations, and Bureau policy.

Alternative I, selective removal to 54 wild horses with fertility control, is consistent with all of the above stated plans, laws, policies, and regulations.

The No Action Alternative would violate the Wild Free Roaming Horse and Burro Act, federal regulations and Bureau policy. In addition, the No Action alternative would not comply with the Mojave-Southern Great Basin RAC Standards and Guidelines for Rangeland Health and Healthy Wild Horse and Burro Populations. It is inconsistent with the Strategic Plan for Management of Wild Horses and Burros on Public Lands.

AML for the White River HMA was established through the allotment evaluation/Final Multiple Use Decision (FMUD) process including Cove Allotment Evaluation/FMUD (1996), Duckwater Allotment Evaluation/FMUD (1995) and settlement (1996), Sunnyside and Hardy Spring Allotment Evaluation/FMUD (1996), North Cove Allotment Evaluation/FMUD (1992), and the Wells Station Allotment Evaluation/FMUD (1997).

Table I. Appropriate Management Level by Allotment

Allotment	Appropriate Management Level for White River HMA
Cove Allotment	42 10 (3 months)
Duckwater Allotment	10 (9 months)
Hardy Spring Allotment	24
North Cove Allotment	0
Wells Station Allotment	14
Total AML for White River HMA	**90**

The AML was established based on in-depth analysis and monitoring data including livestock grazing, wild horse grazing, and wildlife use measured against Land Use Plan objectives, regulation, and applicable law. These allotment evaluations and FMUD's are available in the Ely Field Office for public review.

D. Issues

The two issues identified were the proper management of wild horses and maintaining rangeland health.

II. Description of Proposed Action and Alternatives

The proposed action and alternatives represent the required range of alternatives according to Bureau policy.

A. Proposed Action: Removal to 54 Wild Horses without Fertility Control

The proposed action for the White River Gather would be to capture approximately 100% of the estimated 2004 population, or approximately 343 wild horses, and remove all animals in excess of 54 animals from the White River HMA, including any wild horses that move outside the HMA boundaries during gather operations. This level of animals was determined to ensure a "*thriving natural ecological balance*" during the next three years. Removal to 54 animals is necessary to allow for the natural increase in population over time, and to alleviate resource damage that is currently occurring. Removal to 90 head would lead to resource damage following the first foaling season and would not allow recovery of the habitat, which has already been stressed due to continued wild horse overpopulation and drought conditions (refer to Background Information).

The removal of excess wild horses to achieve and maintain AML is tentatively scheduled to commence in summer 2004 and last approximately nine days. Capture would be through the helicopter drive trapping method or helicopter roping (Appendix I: Standard Operating Procedures).

Multiple capture sites would be used to capture wild horses from the HMA. No capture sites would be located within Wilderness Study Areas. Whenever possible, capture sites would be located in previously disturbed areas. All capture and handling activities (including capture site selections) would be conducted in accordance with Standard Operating Procedures (SOPs) described in Appendix I.

The gather would utilize the current selective removal strategy as developed by the National Wild Horse and Burro Program Office. The Selective Removal Strategy policy was issued February 2002 (Instruction Memorandum 2002-095)[2]. This strategy would allow the removal of all age classes in the following priority order:

1. Age class 5 years old and under

[2] The Selective Removal Strategy may be updated prior to the White River HMA gather occurring.

2. Age class 10 years old and over
3. Age class 6 through 9 years old

The first animals to be removed would be five years and younger, the second class of animals to be removed would be 10 years and older. Animals aged six to nine would be returned to the range unless they need to be removed to achieve management objectives. All nursing mares would be removed regardless of age to prevent orphaned foal death. Previous releases of nursing mares with young foals have shown that the foals tend not keep up when released, and many subsequently become orphaned and die.

The past selective removal in 1996 was age-based, with a removal of all zero to nine year-old wild horses. However, selective removal under this alternative would not only be age based, but could also be based on other critical population variables, such as sex ratios and color characteristics, as described in the Wild Horses section of the Description of the Affected Environment.

The BLM would also engage in the following: collect data such as animal sex, age, and color; acquire blood samples in order to establish baseline genetic information; assess herd health (pregnancy, parasite loading, physical condition, etc.); sort individuals as to age, sex, temperament and/or physical condition; and return selected animals to the range. Excess horses would be transported to BLM holding facilities. Determination of which horses to be returned to the range would be based on an analysis of existing and past population characteristics from previous gathers. Horses selected for return to the range would be released at or near their original gather site.

Table II shows the June 2003 wild horse census data. The census was intended to be a total count of the wild horse population. This data was used to determine estimated removal and release numbers. It is anticipated that the entire population would need to be captured and 289 horses would be removed.

Table II. Population Data

HMA	Census June 2003	Appropriate Management Level	Estimated Population 2004	Estimated Numbers to Remove	Estimated Numbers to Release
White River	286	90	343	289	54

B. Alternative I: Removal to 54 Wild Horses with Fertility Control

Alternative I is to capture the entire population or approximately 343 wild horses within the White River HMA, and remove anything in excess of 54 wild horses or approximately 289 wild horses as described in the proposed action. All of the mares to be released back into the HMA would be treated with a revised immunocontraceptive vaccine, Porcine zona pellucidae (PZP).

The inoculation of mares would consist of a single liquid dose of PZP vaccine and a time released portion of the drug in the form of pellets. The approach under study incorporates the PZP into a non-toxic, biodegradable material that can be formed into small pellets. The pellets are injected with the liquid and are designed to release PZP at several points in time during the first three months after injection much the way time-release cold pills work. When injected, PZP (antigen) causes the mare's immune system to produce antibodies and these antibodies bind to the mare's own eggs, and effectively block sperm binding and fertilization (ZooMontana, 2000). This pellet/liquid formulation would be delivered to the mares as an intra-muscular injection using a jab-stick syringe or dart. The syringe would use a 12-gauge needle and the dart a 1.5" barbless needle. Zero point five cubic centimeters (cc) of the PZP vaccine would be emulsified with 0.5 cc of adjuvant (a compound that stimulates antibody production) and loaded into the delivery system. The pellets would be placed in the barrel of the syringe or dart needle and would be injected with the liquid. Only trained personnel would mix and administer the vaccine. Upon impact the liquid in the chamber would be propelled into the muscle along with the pellets. The injection would be done in the working chutes before the mares are released. This delivery method has been used previously to deliver immunocontraception vaccine with acceptable results. Such a vaccine would permit a single injection to cause up to three years of contraception at approximately 94% effectiveness year one, 82% effectiveness year two, and 68% effectiveness year three, if administered during the winter. Wild horses generally foal March through June, and because equines are seasonal spring breeders, they breed soon after foaling. Administering the injection during summer when the White River gather would occur would most likely result in two years of fertility control with the vaccine. The vaccine is effective for up to 22 months. If administered in summer (when the gather is scheduled to occur), the vaccine would effectively preventing breeding during 2005 and partially during 2006. However, the exact effectiveness when applied during the summer is unknown. PZP is relatively inexpensive, meets BLM requirements for safety to mares and the environment, and can easily be administered in the field.

The Humane Society of the United States (HSUS) has made the PZP vaccine available to the BLM under the Investigational New Animal Drug exemption (INAD #8857) filed with the federal Food and Drug Administration (FDA). As a condition of using the PZP vaccine, the HSUS expects the BLM to follow the Draft Criteria for Immunocontraceptive Use in Wild Horse Herds recommended by the Wild Horse and Burro National Advisory Board in August 1999. The Ely District is in full compliance with all pertaining criteria. The proposed action would also adhere to all guidance and research protocol set by the BLM National Wild Horse Fertility Control Field Trial program.

All treated mares would be identified and freezemarked with a Nevada State approved identification (such as a letter or a number) on the left hip to enable positive identification for future tracking and data collection. The effectiveness of treatments would be determined by counting foals produced in each of the next two years. Observations would be made from the ground utilizing binoculars and spotting scopes and/or by helicopter. Vehicular travel would be limited to existing roads.

C. Alternative II: No Action Alternative

The No Action Alternative is required by National Environmental Policy Act (NEPA) analysis to provide a baseline for impact analysis.

Under this alternative a wild horse gather would not take place in the White River HMA. There would be no active management to control the size of the population at this time, and the BLM would "let nature take its course". The current population of 343 wild horses would continue to increase at a rate of 18-25% annually and would be allowed to regulate their numbers naturally through predation, disease, and forage, water and space availability.

The No Action Alternative would violate the Wild Free Roaming Horse and Burro Act, federal regulations and Bureau policy. In addition, the No Action alternative would not comply with the Mojave-Southern Great Basin RAC Standards and Guidelines for Rangeland Health and Healthy Wild Horse and Burro Populations. It is inconsistent with the Strategic Plan for Management of Wild Horses and Burros on Public Lands.

D. Summary of Compared Alternatives

Table III shows a summary of the proposed action and alternatives.

Table III. Comparison of Alternatives

Alternative	Number of Wild Horses Captured	Number of Wild Horses Removed	Number of Wild Horses Released	Data Collection	Selective Removal Criteria Implemented	Fertility Control Used	Number of Mares Treated with Fertility Control
Proposed Action	343	289	54	Yes	Yes	No	0
Alternative I	343	289	54	Yes	Yes	Yes	27
No Action Alternative	0	0	0	No	No	No	0

III. Description of The Affected Environment

White River Herd Management Area

The White River HMA is located in eastern Nye County, approximately 20 miles southwest of Lund, Nevada, and 10 miles southeast of Currant, Nevada. The HMA is approximately 117,350 acres in size, and contains portions of the Horse Mountain Range and the Grant Mountain Range. Elevations range from 5,280 feet in the Lower Cove to 8,530 feet near the top of Bald Mountain.

A. Wild Horses

Currently the estimated wild horse population in the HMA based on census completed June, 2003, is 343 animals. The Appropriate Management Level (AML) is 90 wild horses.

Only one removal has occurred in the White River HMA since passage of the Wild and Free Roaming Horse and Burro Act. The 1996 removal occurred due to overpopulation and drought emergency issues.

Table IV. Previous Gathers

Date of Gather	Number of horses removed	Estimated Population After Removal
September, 1996	277	56

Sex ratios for wild horses within the White River HMA are representative of other HMAs in the Ely District and the West at large. At birth, sex ratios are roughly equal. This balance shifts to favor mares throughout the younger age classes. This pattern shifts again at around 15 years of age favoring studs (Joel Berger, *Wild Horses of the Great Basin - Social Competition and Population Size*, University of Chicago Press, 1986).

Past capture data was limited due to the emergency nature of the 1996 gather. Animal colors and frequency within the herd are unknown, but that data will be collected. Field and census observations show that the majority of horses exhibit bay, sorrel, black, and brown; although the White River herd is known for having many grays, whites, and roans.

B. Vegetation, Soil, and Water

The dominant vegetation communities within the HMA are typical of the Great Basin and include Wyoming big sagebrush/grass, black sagebrush/grass, salt desert shrub (winterfat/shadscale), cliffrose/mountain brush, and pinyon/juniper. These communities have perennial grass species such as bottlebrush squirreltail, Indian ricegrass, bluegrasses, and crested wheatgrass in the understory. Warm-season grasses are present in limited quantities. Permanent water sources within the HMA primarily consist of springs, which are located in the foothills away from the valley bottoms or at higher mountain elevations. Water is seasonally provided in the winter and spring by valley bottom wells which are pumped by the livestock operator.

C. Wildlife, Special Status Species, and Migratory Birds

The HMA area provides yearlong habitat for pronghorns, mule deer and Rocky Mountain elk. Mule deer and elk that reside in habitats to the north of the HMA also migrate into and through the area to winter. The north one-quarter of the HMA provides yearlong habitat for the sage grouse, a state of Nevada and BLM sensitive species. The United States Fish and Wildlife Service (USFWS) has received eight petitions to list the sage grouse as a threatened or endangered species across its range in North America. Localized populations of chukar partridge, scaled quail, and gambel's quail are present attendant to perennial water sources. The pygmy rabbit resides within the HMA boundaries. The pygmy rabbit was petitioned for listing as threatened or endangered under the Endangered Species Act. The ferruginous hawk, a state of

Nevada and BLM sensitive species also resides and nests each year in the project area. Passerine birds, amphibians, reptiles and small mammals common to the Great Basin environments can also be found in the area. There are no known threatened or endangered plant or animal species, or their habitats within the project area.

D. Livestock

White River HMA includes portions of the Cove, North Cove, Wells Station, Hardy Spring, and Duckwater livestock grazing allotments which are administered by the Ely BLM District (Figure 2). The HMA also includes a portion of the Maybe Seeding which is excluded from wild horse use due to fencing. The HMA is bordered by the Sheep Trail Seeding and the East Wells Allotment, both of which are fenced from the HMA. The Battle Mountain BLM District administers the Butterfield Allotment, a portion of which is within the HMA. The portion of the Butterfield Allotment that is within the HMA is covered by the Duckwater wild horse AML decision. The Butterfield portion has had livestock grazing non-use during the past several years. The portion of the Duckwater Allotment that lies within the HMA is the Red Mountain Use Area. Permitted livestock grazing use includes cattle grazing during the winter (Dec.-Feb.) and spring (March-April), as well as authorized sheep trailing during fall/winter (Nov.-March). Cattle grazing did not occur on the Red Mountain Use Area in 2003. Cattle grazing at less than full permitted use has been occurring approximately every other year for the past several years. There has been no sheep use for approximately 10 years. The Hardy Spring Allotment portion within the HMA has permitted fall, winter, and spring (Oct.-May) cattle use. The allotment has had grazing use every year in the past several years at less than full permitted numbers. The Cove, Wells Station, and North Cove Allotment portions within the HMA have permitted winter and spring (Dec.-May) cattle use. The Maybe Seeding, East Wells Allotment, and Sheep Trail Seeding are not managed for wild horses, even though the map boundaries intersect. Last year non-use was taken in the East Wells, Maybe Seeding, and Sheep Trail Seeding Allotments. The Cove and North Cove Allotments have the Preston/Lund Trail passing through them, so there is fall and spring sheep trailing use. The White River Trail passes through the East Wells and the Hardy Spring Allotments. It also has spring and fall sheep use.

E. Wilderness

The western side of the HMA has portions of two Wilderness Study Areas (WSA) (Figure 3). The Blue Eagle WSA has a small overlap with the HMA boundaries. Further south, a portion of the Riordan's Well WSA is located within the HMA.

F. Noxious Weeds and Invasive Non-Native Species

The HMA has not been inventoried for noxious weeds.

G. Cultural Resources

A cultural resources survey of the HMA has not occurred.

NV-040 12/17/03

Figure 2. Allotments within White River HMA

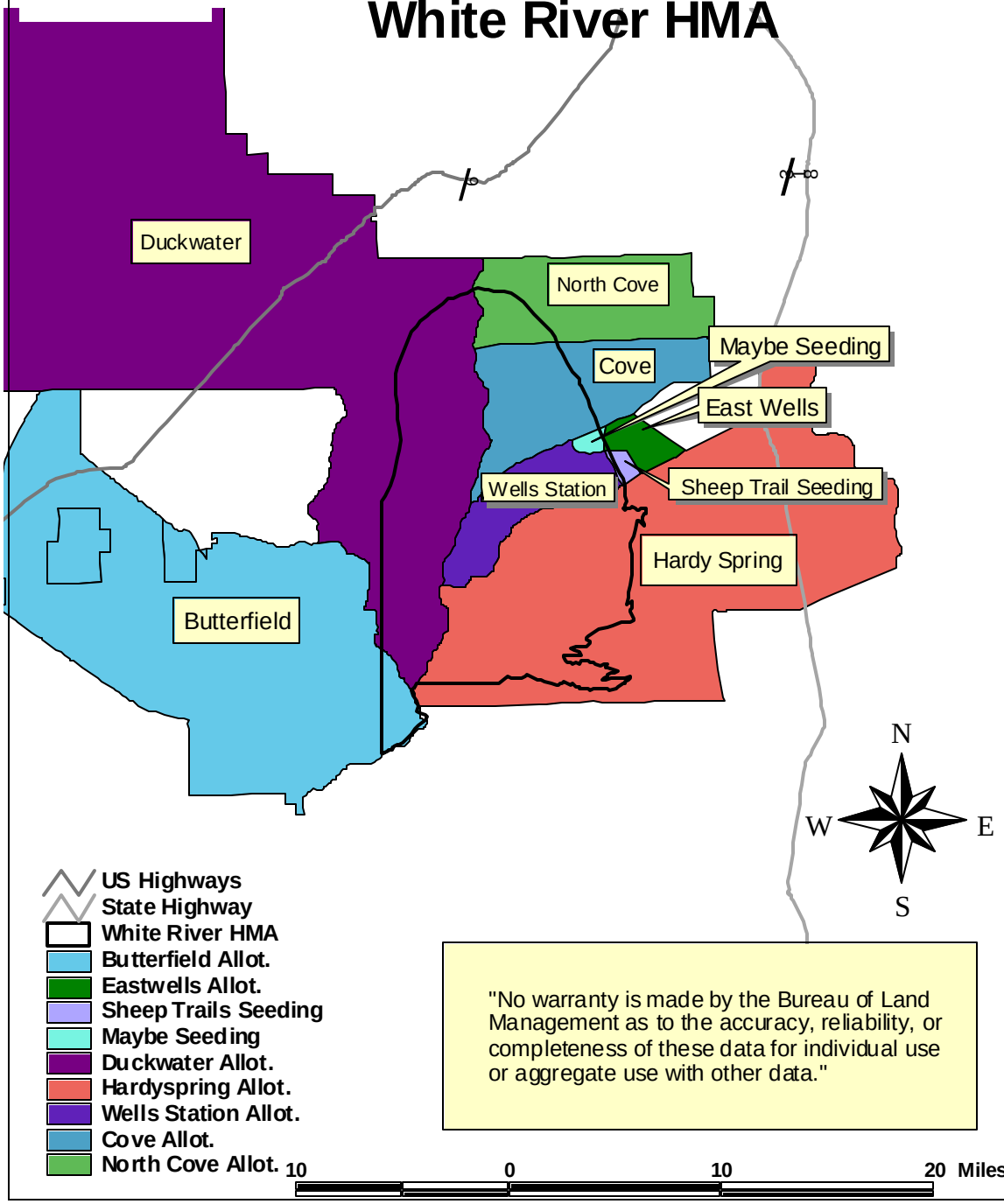


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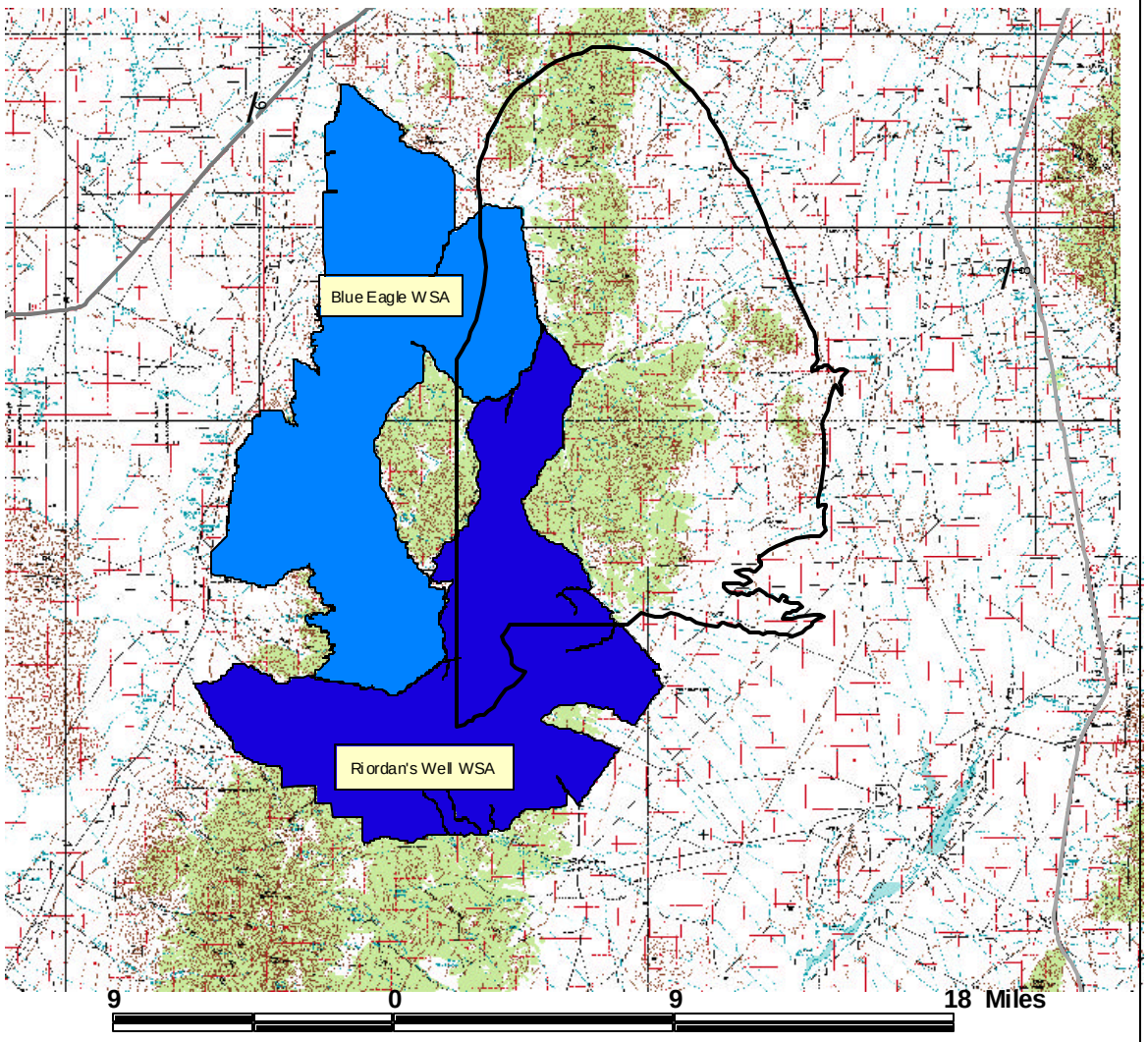
Figure 3. Wilderness Study Areas near White River HMA



State Highways
US Highways
White River HMA
Riordan's Well WSA
Blue Eagle WSA

N
W
E
S

"No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data."

IV. Environmental Consequences (Proposed Action & Alternatives)

The following critical elements of the human environment are not present and/or not affected by the proposed action: air quality, areas of critical environmental concern, environmental justice, prime or unique farmland, floodplains, Native American religious concerns, water quality, hazardous and solid wastes, visual resource management, wetlands, or wild and scenic rivers.

A. Wild Horses

Proposed Action - Impacts to wild horses may occur as a result of handling stress associated with the gather, capture, processing, and transportation of animals. The intensity of these impacts varies by individual and is indicated by behaviors ranging from nervous agitation to physical distress. Mortality to individuals from this impact is infrequent but does occur in one half to one percent of horses gathered in a given gather.

Indirect impacts can occur to horses after the initial stress event, and may include increased social displacement, and increased conflict between studs. These impacts are known to occur intermittently during wild horse gather operations. Traumatic injuries may occur, and typically involve biting and/or kicking bruises, which don't break the skin. The occurrence of spontaneous abortion events among mares following capture is very rare.

Population-wide impacts can occur during or immediately following implementation of the proposed action. They include displacement of horse bands during capture and the associated re-dispersal, modification of herd demographics (age and sex ratios), temporary separation of members of individual bands of wild horses, re-establishment of bands following releases, and the removal of animals from the population. These impacts, with the exception of herd demographic changes, have proven to be temporary in nature with most impacts disappearing within hours to several days of release. Observations of animals following release have shown horses relocate themselves back to their home ranges within 12 to 24 hours of release and sometimes much faster. No observable effects associated with the gather impacts would be expected within one month of release except a heightened shyness toward human contact.

The effect of removal of wild horses from the population would not be expected to have noticeable impact on herd dynamics or population variables as long as the selection criteria for the removal ensured a "typical" population structure was maintained. Implementing the selective removal criteria would allow for correction of any existing discrepancies in sex ratios. Wild horses would be released to provide a more natural sex ratio.

Population-wide genetic viability impacts would not appear immediately as a tangible effect. Subsequent genetic sampling during future gathers compared against the baseline genetic data collected during this proposed gather would quantify the genetic diversity and health of the White River herd. Conservation biologists Frankel and Soule' estimated genetic effective number, or the portion of the total population that contributes genetically to the next generation, to be a minimum population of 50 breeding individuals. This minimum of 50 breeding adults would be the lowest population and the highest level of inbreeding that would be allowed by

managers (Singer and Schoenecker) while still retaining genetic diversity. Since 54 wild horses would be released, being of six to nine years of age, as well as an even sex ratio, enough caution would be used during the gather to minimize the effect of a loss of genetic diversity that could lead to genetic drift or produce un-healthy wild horses. Although not all of the 54 wild horses may be reproducing in any one given year, if genetic diversity is determined to be a concern, augmentation with one wild horse from a separate population per generation has been shown to maintain genetic diversity.

Population modeling was completed for the proposed action in order to determine future herd demographics and population growth. Modeling indicates that the average wild horse population growth rate of the median of 100 trials should be 21% over four years. The average population size of the median of 100 trials would be 160 wild horses. Modeling indicates that reducing wild horse numbers to 54 would not put the population at risk of catastrophic loss or "crash". Refer to Appendix II for population modeling summary graphs.

Under the Proposed Action, the wild horse population in the White River HMA would be reduced to 54 animals. The implementation of the Proposed Action would prevent the population from increasing beyond AML during the next three years. The next gather, which would be scheduled in approximately four years, would reduce horse numbers the year that they exceed the AML. This would ensure a healthy, vigorous, and viable breeding population, reduce stress on vegetative communities and wildlife, and be in compliance with the Wild Free Roaming Horse and Burro Act, Resource Advisory Council Standards and Guidelines, and land use plan management objectives. The above impacts are likely to occur, but to fewer animals in the long term because less horses would need to be gathered, and less frequently. Removing wild horses to 54 head would result in the HMA achieving a "thriving natural ecological balance" until the fourth year. Risks to the health of the rangelands by exceeding the carrying capacity of the range, and risks to the health of the horse herds would be minimized. Horses would not be at risk of death by starvation and lack of water due to unpredictable weather patterns. Fighting among stud horses would decrease as they less frequently protect their position at scarce water sources, as well as injuries and death to all age classes of animals. As populations are managed within capacity of the habitat, bands of horses would be less likely to leave the boundaries of the HMA seeking forage and water, which in turn may put them at risk in new and unfamiliar country.

Alternative I - Alternative I would have the same impacts as the proposed action at the time of the gather, as well as reducing the short-term fecundity of initially a large percentage of mares in a population.

This one-shot application, applied at the capture site, will not affect normal development of the unborn fetus, hormone health of the mare or behavioral responses to stallions, should the mare already be pregnant when vaccinated (Kirkpatrick, 1995). The vaccine was also proven to have no apparent effects on pregnancies in progress, the health of offspring, or the behavior of treated mares (Turner, 1997). The PZP two-year vaccine has shown effectiveness for up to 22 months. If mares are inoculated during the winter months (November 1st through February 28th), the vaccine would have 98% effectiveness the first year, 82% the second year, and 68% the third

year. In the case of the White River HMA, only two years of effectiveness is expected because the mares would be inoculated during summer months, rendering the drug nearly ineffective the third year (2007). Research on this drug for summer application has not been conducted and the percent effectiveness is expected to be less than winter application. With a 22 month effect, this vaccine is expected to be effective the first breeding season, but then wear off half-way through the 2006 breeding season. This should prevent a majority of the mares from foaling in 2006. It is unknown whether during the 2006 breeding season when the drug wears off, if some of the mares would be prevented from breeding, or if all mares would then breed. The potential reprieve from foaling would greatly increase overall health and fitness of the mares, as well as the health of the foals born in 2007 and thereafter. The increased health and condition of the mares would lead to more mares than usual being bred after their foaling reprieve, leading to a "surge" in population.

Mares receiving the inoculation would experience slightly increased stress levels from increased handling while being inoculated and freeze branded. There would be additional impacts to animals at the isolated injection site following the administration of the fertility control vaccine. Injection site injury associated with fertility control treatments is extremely rare in treated mares, and may be related to experience of the administrator. The injection would be controlled, handled and administered by a trained BLM employee, researcher or veterinarian. Any direct impacts associated with fertility control are expected to be minor in nature and of short duration. The mares would quickly recover once released back to the HMA.

The use of fertility control under Alternative I is not expected to have any long-term significant direct, or indirect impacts to the White River HMA genetic health, long-term viability or future reproductive success of mares within the herd. Among mares, PZP contraception appears to be completely reversible, and to have no ill effects on ovarian function if the mare is not administered the contraception vaccine for more than 3 consecutive years. Implementation of fertility control is expected to improve the health of the mares within the HMA, and improving the health of the foals born to those mares in the future. Improved condition of the mares and foals would aid in the long-term health and viability of the White River HMA wild horse population. Reduced growth rates that would occur with the implementation of fertility control would influence herd size at any one point in time, reducing competition for resources and utilization levels of those resources. Reduced growth rates would increase the interval between gathers, having overall beneficial impacts to the entire wild horse population, while contributing to the achievement and maintenance of a "thriving natural ecological balance" until the fourth year. This alternative would have the same impacts to herd viability as the proposed action.

Population modeling indicates that the average (median) growth rate of the herd should be 12.1% over four years. The average of 100 trials indicates that the median population would be 142 wild horses (Appendix II). Modeling indicates that implementation of fertility control would not put the population at risk of catastrophic loss or "crash".

No Action Alternative - Under this alternative, wild horses would not be removed from the White River HMA. The horses would not be subject to any individual direct or indirect impacts described in the Proposed Action as a result of a gather operation. However, allowing horse

numbers to increase unchecked would have several negative consequences to the animals, including starvation, dehydration, and social stress. Wild horses are a long-lived species with documented survival rates exceeding 92% for all age classes. Predation and disease do not substantially regulate wild horse population levels. This would lead to increasing wild horse populations with only forage, water, and space availability to limit the horse numbers.

The no action alternative would result in a steady increase in wild horse numbers, which would exceed the carrying capacity of the range. Consequences of exceeding the established AML and the carrying capacity of the range would be increased risk to the health of the rangelands, and risk to horse herd health. Individual horses would be at risk of death by starvation and lack of water. The population of wild horses would compete for the available water and forage resources. The mares and colts would be affected most severely. Fighting among stud horses would increase as they protect their position at scarce water sources, as well as injuries and death to all age classes of animals. The areas closest to the water would experience severe utilization and degradation. Over the course of time, the animals would deteriorate in condition as a result of declining forage availability and the increasing distance traveled to forage. Many horses would likely die through the winter if average snowfall levels are received, especially foals and mares. As populations increase beyond the capacity of the habitat, bands of horses may leave the boundaries of the HMA seeking forage and water, which in turn may put them at risk in new and unfamiliar country. The health of the wild horse herd population would be reduced, the condition of the range would deteriorate, and other range users would be impacted. Further, heavy forage use would degrade rangeland resources. Rangeland in poor ecological health provides less forage, and is susceptible to invasion by non-native weeds. Soil health and future productivity of the rangeland would decline.

The average of 100 population modeling trials indicates that if the current wild horse population continues to grow without a removal the median population size would be 519 wild horses. Modeling indicates the average growth rate is expected to be a 15.7% annual increase (Appendix II).

B. Vegetation, Soil, and Water

Proposed Action - Impacts to vegetation with implementation of the Proposed Action could include disturbance of native vegetation immediately in and around temporary trap sites, and holding and processing facilities. Impacts could be by vehicle traffic and the hoof action of penned horses, and could be locally severe in the immediate vicinity of the corrals or holding facilities. Generally, these activity sites would be small (less than one half acre) in size. Since most trap sites and holding facilities would be re-used during recurring wild horse gather operations, any impacts would remain site-specific and isolated in nature. In addition, most trap sites or holding facilities are selected to enable easy access by transportation vehicles and logistical support equipment and would generally be adjacent to or on roads, pullouts, water haul sites, or other flat spots that were previously disturbed. By adhering to the SOPs, adverse impacts to soils would be minimized.

Implementation of the Proposed Action would reduce the wild horse population. It would prevent the population from increasing beyond AML and would achieve a "thriving natural ecological balance" during the next three years. This would reduce stress on vegetative communities, and be in compliance with the Wild Free Roaming Horse and Burro Act, Resource Advisory Council Standards and Guidelines, and land use plan management objectives. Vegetative resources, including riparian areas, would improve with the reduced population. Vegetative species would not experience over-utilization by wild horses, which would lead to healthier, more vigorous forage plants. This would result in an increase in forage availability, vegetation density, reproduction, and productivity.

Impacts of hoof action on the soil around unimproved springs and stream banks would be lessened, which should lead to increased stream bank stability and improved riparian habitat conditions. There would also be a reduction in hoof action on upland habitats and reduced competition for available water sources.

Alternative I - Impacts to vegetation, soil, and water at the time of the gather would be the same as in the Proposed Action. Vegetative recovery is expected to be the same as the proposed action within the first two years. However, with the surge in wild horse population growth in the third year due to compensatory reproduction, vegetative recovery would be slowed.

No Action Alternative - The severe localized trampling associated with trap sites would not occur, however, as wild horse populations continue to grow, soil erosion throughout the HMA would increase. Increased horse use throughout the HMA would adversely impact soils and vegetation health, especially around the water locations. As native plant health deteriorates and plants are lost, soil erosion would increase. The shallow soils typical of this region cannot tolerate much loss without losing productivity and thus the ability to be re-vegetated with native plants. Invasive, non-native plant species would increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. This would lead to both a shift in plant composition towards weedy species and an irreplaceable loss of topsoil and productivity from erosion. Eventually, the loss of vegetation and soil would prevent any grazing of large ungulates.

C. Wildlife, Special Status Species, and Migratory Birds

Proposed Action – Wildlife adjacent to the trap sites could be temporarily displaced. This displacement would be due to the noise of the helicopter and increased traffic. These disturbances would occur during the capture period. Reduction of wild horse numbers would result in reduced competition with wildlife as soon as the gather is completed. A "thriving natural ecological balance" would be maintained until the fourth year. This would result in improved habitat conditions by increasing forage availability and quality. In addition, it would reduce competition between wild horses and wildlife for available forage and water resources. Disturbance associated with wild horses along stream bank riparian habitat and adjacent upland habitat would be reduced. No impacts would occur to migratory birds because the gather would not occur during the nesting period.

Alternative I - This alternative would have the same impacts as the proposed action. However, the surge in wild horse populations the third year would slow the improvement in wildlife habitat.

No Action Alternative - Wildlife would not be temporarily displaced or disturbed under the no action alternative. There would be continued competition with wild horses for water and forage resources. This competition would increase as wild horse numbers increased annually. Wild horses are aggressive around water sources, and some wildlife species may not be able to compete. The competition for resources may lead to increased stress and possible dislocation or death of native wildlife species.

D. Livestock

Proposed Action - The only area where livestock may be actively grazing during the time of the gather is in the Lower Cove area of the Hardy Spring Allotment. All other portions of the HMA have winter livestock use. Livestock located near gather activities would be disturbed by the helicopter and the increased vehicle traffic during the gather operation. This displacement would be temporary; and the livestock would move back into the area once gather operations moved. A reduction to 54 wild horses would result in an increase in forage availability and quality, improved habitat condition, and reduced competition between livestock and wild horses for available forage and water resources until the fourth year.

Alternative I - This alternative would have the same impacts as the Proposed Action. However, the surge in wild horse population the third year would slow the forage recovery and increase wild horse and livestock competition.

No Action Alternative - Livestock would not be displaced or disturbed due to gather operations under the No Action Alternative, however, there would be continued competition with wild horses for water and forage resources. As horse numbers increase, livestock grazing may be reduced to prevent further deterioration of the range.

E. Wilderness

Proposed Action - No impacts to wilderness values are anticipated to occur during the gather since all trap sites and holding facilities would be placed outside Wilderness Study Areas. Wilderness values after the gather would be positively affected by a reduction in wild horse numbers as a result of an improved ecological condition of the plant communities and other natural resources. Wilderness values would be positively affected for three years when a "thriving natural ecological balance" is achieved.

*Alternative I - **Alternative I would have the same impacts as the Proposed Action. However, with the surge in wild horse numbers the third year, natural resource improvement would slow, affecting wilderness values.***

No Action Alternative - No impacts to wilderness due to gather operations would occur. Impacts to wilderness values would continue to occur through the continued degradation of vegetative and soil resources by high numbers of wild horses. To some, the sight of heavy horse trails, trampled vegetation and areas of high erosion detract from the wilderness experience.

F. Noxious Weeds and Invasive Non-Native Species

Proposed Action - The proposed gather may spread existing noxious weed species. This could occur if vehicles drive through infestations and spread seed into previously weed-free areas. The contractor together with the contracting officer's representative or project inspector (COR/PI) would examine proposed trap sites and holding corrals prior to construction. If noxious weeds were found, the location of the facilities would be moved. Any off-road equipment that has been exposed to weed infestations would be cleaned before moving into relatively weed free areas. All trap sites, holding facilities, and camping areas would be monitored in the next several years. Despite short-term risks, with the reduction in horse numbers, and the subsequent recovery of the native vegetation, fewer disturbed sites would be available for non-native plant species to invade.

Alternative I - Impacts would be the same as the Proposed Action. However, the surge in wild horse population the third year could slow native vegetation recovery and lead to non-native plant invasion.

No Action Alternative - Under this alternative, the wild horse gather would not take place. The likelihood of noxious weeds being spread by gather operations would not exist. However, overgrazing of the present plant communities could lead to an expansion of noxious weeds and invasive non-native species.

G. Cultural Resources

Proposed Action - No impacts to cultural resources are anticipated to occur since all trap sites and holding facilities would be inventoried for cultural resources prior to construction. An archaeologist would review all proposed trap sites and facility locations (new and previously used locations) to determine if these locations have had a cultural resources inventory, and/or if a new inventory is required (Cultural Resources Needs Assessment NV-8100-9). This review by the archaeologist, which does not normally include fieldwork, will be documented in the Needs Assessment. A District Archeological Technician (DAT) will be on-site during the gather to perform any needed cultural resources inventories. If cultural resources are encountered at proposed trap site(s) or holding facility location(s), those location(s) would not be utilized unless it could be modified to avoid impacts to cultural resources. With reduced horse numbers, there would be less hoof action around riparian spring areas where many cultural resources are found. This could lead to decreased cultural resources damage by wild horses.

Alternative I - The impacts would be the same as the Proposed Action. However, with the surge in wild horse population the third year, the greater horse numbers could damage cultural resource sites.

No Action Alternative - Under this alternative, the wild horse gather would not take place and therefore, no trap sites or holding facilities would be constructed. There would be no possibility that cultural resources would be damaged as a result of horse gather operations, however, high numbers of wild horses could cause damage to cultural resources due to trampling, especially around water sources, where the occurrence of cultural resources is often high.

V. Cumulative Impacts

According to the 1994 BLM *Guidelines For Assessing and Documenting Cumulative Impacts*, the cumulative analysis should be focused on those issues and resource values identified during scoping that are of major importance. Accordingly, the issues of major importance that are analyzed are managing for healthy rangeland and to manage for healthy, viable wild horse herds.

Past Actions

During the 1500's the Spanish explorers brought the modern horse with them from Spain and the rest of Europe. Many of these animals became feral and roamed in the grasslands of the plains as well as isolated mountainous regions of the west where the Spanish had explored or settled. As additional settlers arrived in the western United States, they brought many breeds of horses with them. Each breed was developed for unique tasks or purpose. As these settlers passed through or settled in Nevada, some of these horses became feral or were purposely turned loose on the range and used as a commodity. The wild horses of eastern Nevada are descended from ranch stock, mining draft horses, Calvary mounts and various other breeds.

From the late 1800s until the 1930s many horses were produced on the range for use in the Calvary remount program. Many Arabian and Thoroughbred stallions were released on the range to reproduce with the wild mares in order to obtain progeny that had endurance and other characteristics required by the military. Wild horses on the rangeland were periodically gathered by private individuals. The young animals were sold to the military, and the undesirable stallions and mares were destroyed to eliminate their characteristics from the gene pool. After the Calvary remount program ended, many wild horses were captured to be sold for rendering profits. Wild horses were viewed as a nuisance and/or commodity. Many "mustangers" operated in eastern Nevada, capturing wild horses and selling them for slaughter, or keeping a few for personal use.

In 1934 Congress passed the Taylor Grazing Act establishing grazing districts and the Grazing Service. This act was the first step in regulation of grazing use on the public lands. In 1946 the Grazing Service was merged with the General Land Office and the Bureau of Land Management (BLM) was formed. Range improvements and fences to control livestock movements were constructed to improve rangeland conditions. Wild horses were not federally protected and individuals that claimed ownership or mustangers with permission from the BLM continued to use the wild horses for commercial purposes.

Fire suppression efforts, while being effective in reducing fires during the period 1940 through 1960, also allowed fuels to accumulate and to increase the woody fuels. The shift in fuel loading

has reduced the amount of forage available to livestock, wildlife, and wild horses, and has created conditions that result in catastrophic fires where vegetation conversion to annual grasslands is often the aftermath.

In 1959 Congress passed the Wild Horse Annie Act. This act protected wild horses from being captured, harassed or chased with motorized vehicles. In 1971 Congress passed the Wild and Free Roaming Horse and Burro Act. This act proved full protection for wild free-roaming horses and burros. Wild or free-roaming horses that were not claimed for individual ownership were under the protection of the Secretaries of Interior and Agriculture. This act provided protection, but no appropriation authority for management of the wild horses. In 1976 the Federal Land Policy and Management Act (FLPMA) was passed which gave the BLM a direction for management as well as approved appropriation authority for the management of wild and free-roaming horses on the public lands. This act also gave the Secretary the authority to use motorized equipment in the capture of wild free-roaming horses as well as continued authority to inventory the public lands.

Herd Areas were identified in 1971 as areas occupied by wild horses. The HMAs were established in the late 1980s through the land use planning process as areas where wild horse management was a designated land use. Since the mid-1980s, AMLs have been established on the Ely BLM District HMAs.

The Wild and Free-Roaming Horse and Burro Act was amended in 1978 through the Public Range Improvement Act, by allowing the Secretary to place excess wild horses into private ownership or adopt these animals to the citizenry of the United States in order to improve the condition of the public lands through wild horses removals.

The BLM also moved to long range planning with the development of the Caliente Grazing EIS, the Schell Grazing EIS and the Egan RMP/EIS. These EISs analyzed impacts of the Land Use Plan's management direction for grazing and wild horses, as updated through Bureau policies, Rangeland Program direction, and Wild Horse Program direction. Forage was allocated within the allotments for livestock use and range monitoring studies were initiated to determine if allotment objectives were being achieved, or that progress toward the allotment objectives were being made.

Due to these laws and subsequent court decisions, integrated wild horse management and one removal has occurred in the White River HMA. Wild horses were removed in 1996 when over-populated and horse health and drought conditions reached a point where an emergency gather was justified. Resource conditions have been negatively affected due to excess wild horses and conversely resource conditions improved due to wild horse removals. Appropriate Management Level determinations for the White River HMA have been established through five separate decisions from 1992 through 1997. AML was established at 90 wild horses in order to achieve a "thriving natural ecological balance".

Similarly, adjustments in livestock season of use, livestock numbers, and grazing systems were made through the allotment evaluation/MUD process. In addition, temporary closures to

livestock grazing in areas burned by wildfires, or due to extreme drought conditions, were implemented to improve range condition.

The Mojave/Southern Great Basin Resource Advisory Council developed standards and guidelines for rangeland health that have been the basis for managing wild horse and livestock grazing within the Ely District. In 2003, a standard and guideline specifically for wild horse and burros was developed and approved. Adjustments in numbers, season of use, grazing season, and allowable use are based on evaluating progress toward reaching the standards.

Present Actions

Today the White River HMA has an estimated population of 343 wild horses. Resource damage is occurring due to this excess of animals and wild horses are moving into non-HMA areas. Current BLM policy is to conduct removals targeting portions of the wild horse population based upon age, and allowing the correction of any sex ratio problems that may occur. Further, the BLM is mandated to conduct gathers in order to facilitate a four-year gather cycle. Program goals have expanded beyond establishing a *"thriving natural ecological balance"* (by setting appropriate management level (AML)) for individual herds, to include achieving and maintaining healthy, viable, vigorous, and stable populations.

Current mandates prohibit the destruction of healthy animals that are removed or deemed to be excess. Currently only sick, lame, or dangerous animals can be euthanized, and destruction is no longer used as a population control method. This has led to gather intervals that are longer than the desired four years due to a lack of facility space and funding.

Today public interest in the welfare and management of wild horses is currently higher than it has ever been. Many different values pertaining to wild horse management form current wild horse perceptions. Wild horses are viewed as nuisances, as well as living symbols of the pioneer spirit.

The Ely BLM has also modified grazing permits and conducted vegetation treatments to improve watershed health. Currently within the White River HMA there is sheep and cattle livestock grazing use occurring on a yearly basis.

The focus of wild horse management has also expanded to place more emphasis on achieving rangeland health as measured through the RAC standards and guidelines

Reasonably Foreseeable Future Actions

In the future, the BLM would manage wild horses within a population range for established AMLs, while maintaining genetic diversity, age structure, and sex ratios. Current policy is to express all future wild horse AMLs as a range, to allow for regular population growth, as well as better management of populations rather than individual HMAs. The Ely BLM District is in the process of writing a new Resource Management Plan that will analyze AMLs expressed as a range. Future wild horse management would focus on an integrated ecosystem approach with the

basic unit of analysis being the watershed. Wild horses would continue to be a component of the public lands, managed within a multiple use concept within the White River HMA.

While there is no anticipation that there will be amendments to the Wild and Free-Roaming Horse and Burro Act that would change the way wild horses could be managed on the public lands, the Act has been amended twice since 1971. Therefore, there is potential for an amendment as a reasonably foreseeable future action. However, if changes in the Act that relate to the disposal of excess wild horses or sanctuaries outside of the United States are authorized; gathers and removals should become more predictable due to facility space. This should increase stability of gather schedules, which would result in the White River HMA being gathered every four years. Fertility control should also become more readily available as a management tool, with treatments that last between gather cycles, reducing the need to remove as many wild horses. If there are no future amendments to the Act, and no changes in funding levels for the wild horse program, then few changes in on-the-ground management would occur.

An Ely BLM District Resource Management Plan, which includes Great Basin Restoration, has been initiated and is scheduled to be completed in 2005. Wild horse management for the White River HMA will be addressed on a programmatic basis. The Ely Field Office would continue to conduct monitoring to assess progress toward meeting rangeland health standards.

Impacts

Past actions regarding the management of wild horses have resulted in the current wild horse population within the White River HMA. Wild horse management has contributed to the present resource condition and wild horse herd structure within the gather area.

Cumulatively, the wild horses within the White River HMA make up a small portion of the total wild horse population within the Ely District and the BLM as a whole. In the White River HMA wild horses would continue to be one of the multiple users of the public lands.

With regard to the two major issues, that of managing for healthy rangelands and to manage for healthy, viable wild horse herds as mandated by the Act, the Proposed Action and Alternative 1 would be more likely to provide conformance with the standards and guidelines for rangeland health, as well as achieving horse health and condition. Under the No Action Alternative, progress toward achieving the standards and horse health would not begin until AML can be achieved.

The combination of the past, present, and reasonably foreseeable future actions, along with the proposed action, should result in more stable wild horse populations, healthier rangelands, healthier wild horses, and fewer multiple-use conflicts within the White River HMA.

VI. Mitigation Measures and Suggested Monitoring

The standard operating procedures incorporate all necessary monitoring. No additional monitoring is warranted.

VII. Consultation and Coordination

Public hearings are held annually on a state-wide basis regarding the use of helicopters and motorized vehicles to capture wild horses (or burros). During these meetings, the public is given the opportunity to present new information and to voice any concerns regarding the use of these methods to capture wild horses (or burros). Additional consultation and coordination relative to the proposed action includes posting the proposed action on the BLM Ely Field Office's website (http://www.nv.blm.gov/ely/nepa/ea_list.htm) May 17th, and posting the full EA on May 24th for a 30 day public scoping period. The proposed action was to be presented at a Native American Consultation Meeting on May 19th, but due to low turnout, information describing the proposed action will be mailed to the Native American tribes. The Preliminary EA was mailed to the following list of people on May 21, 2004:

CC:	Certified No. Returned Receipt Requested
Blue Eagle Ranch	7002 0510 0001 2708 7839
Dave & Linda Woolfolk	7002 0510 0001 2708 7822
RWD Currant Creek LLC	7002 0510 0001 2708 7815
Paris Livestock	7002 0510 0001 2708 7808
Carter Cattle Co., Steve Carter	7002 0510 0001 2708 7792
Duckwater Shoshone Tribe	7002 0510 0001 2708 7785
Ernest H. Gubler Incorporated, Janice Wilfong	7002 0510 0001 2708 7778
Duckwater Cattle Co.	7002 0510 0001 2708 7761
Denny Manzonie	7002 0510 0001 2708 7754
Gary Sprouse, Blue Diamond Oil Corporation	7002 0510 0001 2708 7747
Bruce & Pamela Jensen	7002 0510 0001 2708 7730
Charles Baun, URS Corp	7002 0510 0001 2708 7723
Mr. Steven J. Carter, Carter Cattle Company	7002 0510 0001 2708 7716
Friends of Nevada Wilderness	7002 0510 0001 2708 7709
Steve Foree, NDOW	7002 0510 0001 2708 7693
Andrea Lococo, The Fund For Animals	7002 0510 0001 2708 7686
Brad Hardenbrook, NDOW	7002 0510 0001 2708 7679
John McLain, Resource Concepts, Inc	7002 0510 0001 2708 7662
Betsy Macfarlan, ENLC	7002 0510 0001 2708 7655
Katie Fite, Western Watersheds	7002 0510 0001 2708 7648
Mike Scott, NDOW	7002 0510 0001 2708 7631
Mr. Lucas Phillips, Ely Ranger District	7002 0510 0001 2708 7624
USFS, Southern Nevada Field Office	7002 0510 0001 2708 7617
Jule Wadsworth	7002 0510 0001 2708 7600
Nevada State Clearinghouse, Department of Admin.	7002 0510 0001 2708 7594
Mr. Frank Reid	7002 0510 0001 2708 7587
Carl Slagowski	7002 0510 0001 2708 7570
Mr. Jim Baumann	7002 0510 0001 2708 7563
Ken Conley	7002 0510 0001 2708 7556

Eureka County Natural Resources Dept.	7002 0510 0001 2708 7549
Fish Creek Ranch, LLC	7002 0510 0001 2708 7532
Art Gale	7002 0510 0001 2708 7525
George Lea, President	7002 0510 0001 2708 7518
Mr. Jerry McGuire, White River Ranch, LLC	7002 0510 0001 2708 7501
Mike Podborny, NDOW	7002 0510 0001 2708 7495
White Pine Sportsmen	7002 0510 0001 2708 7488
Wade Robison, WP County Wildlife Advisory Board	7002 0510 0001 2708 7471
Wild Horse Organized Assistance	7002 0510 0001 2708 7464
Mr. Jerry Millet, Tribal Manager	7002 0510 0001 2708 7457
Te-Moak Tribe of Western Shoshone	7002 0510 0001 2708 7440
Mr. David Pete, Chair, Goshute Tribal Council	7002 0510 0001 2708 7433
Wild Horse Organized Assistance	7002 0510 0001 2708 7426
National Wild Horse Association	7002 0510 0001 2708 7419

Internal District Review

Jody Nartz	Wild Horses/Author
Jared Bybee	Wild Horses
Karen Prentice	Invasive, Non-Native Species
Steve Leslie	Wilderness Values
Carolyn Sherve-Bybee	Archeological/Historic/Paleontological
Paul Podborny	Migratory Birds, Special Status Species
Chris Hanefeld	Public Affairs
Susan Baughman	Environmental Coordination
Elvis Wall	Native American Religious Concerns/Tribal Coordination
Grant Hoggan	Range
Mark Lowrie	Range
Troy Grooms	Range

APPENDIX I

STANDARD OPERATING PROCEDURES

Gathers would be conducted by contractors or agency personnel. The same procedures for gathering and handling wild horses and burros apply whether a contractor or BLM personnel are used. The following stipulations and procedures will be followed to ensure the welfare, safety and humane treatment of the wild horses and burros (WH&B) in accordance with the provisions of 43 CFR 4700.

Gathers are normally conducted for one of the following reasons:

1. Regularly scheduled gathers to obtain or maintain the Appropriate Management Level (AML).

2. Drought conditions that could cause mortality to WH&B due to the absence of water or forage, and where continued grazing may result in a downward trend to the vegetative communities due to plant mortality and reduced vigor and productiveness.

3. Fires that remove forage to the extent that there is inadequate forage to sustain the population or to allow recovery of native vegetation.

4. Utilization levels that reach a point where a continued increase in utilization would cause a downward trend in the plant communities and impede meeting standards for rangeland health.

5. Monitoring indicates that WH&B use would begin to cause a downward trend in riparian function or not permit the recovery of riparian vegetation determined to be in undesirable condition.

A. Capture Methods used in the Performance of a Gather - Contract Operations

1. Helicopter - Drive Trapping

   Capture attempts may be accomplished by utilizing a helicopter to drive animals into a temporary trap. If this method is selected the following applies:

   a. A minimum of two saddle-horses shall be immediately available at the trap site to accomplish roping if necessary. Roping shall be done as determined by the BLM. Under no circumstances shall animals be tied down for more than one hour.
   b. The contractor shall assure that bands remain together, and that foals shall not be left behind.

c. A domestic saddle horse(s) may be used as prada (or "Judas") horse to lead the wild horses into the trap site. Individual ground hazers may also be used to assist in the gather.

2. Helicopter - Roping

Capture attempts may be accomplished by utilizing a helicopter to drive animals to ropers. If this method is selected the following applies:

a. Under no circumstances shall animals be tied down for more than one hour.

b. The contractor shall assure that bands remain together, and that foals shall not be left behind.

B. BLM Conducted Gather - Non-Contract Operations

3. Gather operations will be conducted in conformance with the Wild Horse and Burro Aviation Management Handbook (March 2000).

4. Two-way radio communication between the helicopter and the ground crew will be maintained at all times during the operation.

C. Safety and Communications

2. The Contractor shall have the means to communicate with the BLM and all contractor personnel engaged in the capture of wild horses and burros utilizing a VHF/FM Transceiver or VHF/FM portable Two-Way radio. If communications are ineffective the government will take steps necessary to protect the welfare of the animals.

a. The proper operation, service and maintenance of all contractor furnished property is the responsibility of the Contractor. The BLM reserves the right to remove from service any contractor personnel or contractor furnished equipment which, in the opinion of the BLM violate contract rules, are unsafe or otherwise unsatisfactory. In this event, the Contractor will be notified in writing to furnish replacement personnel or equipment within 48 hours of notification. All such replacements must be approved in advance of operation by the BLM.

b. The Contractor shall obtain the necessary FCC licenses for the radio system.

c. All accidents occurring during the performance of any delivery order shall be immediately reported to the BLM.

2. Should the helicopter be employed, the following will apply:

   a. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates, applicable regulations of the State in which the gather is located.

   b. Fueling operations shall not take place within 1,000 feet of the animals.

   c. At time of delivery order completion, the contractor shall provide the BLM with a completed copy of the Service Contract Flight Hour Report.

D. Trapping and Care

1. The primary concern of the contractor is the safe and humane handling of all animals captured. All capture attempts shall incorporate the following:

   a. All trap and holding facilities locations must be approved by the BLM prior to construction. The Contractor may also be required to change or move trap locations as determined by the BLM. All traps and holding facilities not located on public land must have prior written approval of the landowner.

   b. A cultural resources investigation by an archaeologist or an archaeological technician would be conducted prior to trap or holding facility construction. If cultural values are found, an alternative site would be selected.

   c. Prior to facility (temporary traps and holding corrals) construction, the proposed locations would be examined for the presence of noxious weeds. If it is determined that noxious weeds are present, the contractor would be instructed to locate the facilities elsewhere. The contractor and his personnel would also be instructed to avoid camping in or driving through noxious weed infestations.

2. The rate of movement and distance the animals travel shall not exceed limitations set by the BLM who will consider terrain, physical barriers, weather, condition of the animals and others factors.

3. All traps, wings, and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and be in accordance with the following:

a. Traps and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high for horses and 60 inches for burros, and the bottom rail of which shall not be more than 12 inches from ground level. All traps and holding facilities shall be oval or round in design.

b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered with plywood (without holes) or like material.

c. All runways shall be a minimum of 30 feet long and a minimum of 6 feet high for horses, and 5 feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 5 feet above ground level for burros and 1 foot to 6 feet for horses. The location of the government furnished portable restraining chute to restrain, age, or provide additional care for animals shall be placed in the runway in a manner as instructed by or in concurrence with the BLM.

d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses. Eight linear feet of this material shall be capable of being removed or let down to provide a viewing window.

e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking gates.

4. No fence modifications will be made without authorization from the COR/PI. The Contractor/BLM shall be responsible for restoration of any fence modification.

5. When dust conditions occur within or adjacent to the trap or holding facility, the Contractor/BLM shall be required to wet down the ground with water.

6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, and estrays from the other animals. Animals shall be sorted as to age, number, size, temperament, sex, and condition when in the holding facility so as to minimize, to the extent possible, injury due to fighting and trampling. Under normal conditions, the government will require that animals be restrained for the purpose of determining an animal's age or other similar practices. In these instances a portable restraining chute will be provided by the government. Alternate pens shall be furnished by the Contractor to hold animals if the specific gathering requires the animals be released back into the capture area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the

Contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the BLM.

7. The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day.

8. It is the responsibility of the Contractor/BLM to provide security to prevent loss, injury or death of captured animals until delivery to final destination.

9. The Contractor/BLM shall restrain sick or injured animals if treatment is necessary. A veterinarian may be called to make a diagnosis and final determination. Destruction shall be done by the most humane method available. Authority for humane destruction of wild horses (or burros) is provided by the Wild Free-Roaming Horse and Burro Act of 1971, Section 3(b)(2)(A), 43 CFR 4730.1, BLM Manual 4730 - Destruction of Wild Horses and Burros and Disposal of Remains, and is in accordance with BLM policy as expressed in Instructional Memorandum No. 98-141.

   Any captured horses that are found to have the following conditions may be humanely destroyed:

   a. The animal shows a hopeless prognosis for life.
   b. Suffers from a chronic disease.
   c. Requires continuous care for acute pain and suffering.
   d. Not capable of maintaining a body score of one.
   e. The animal is a danger to itself or others.

10. Animals shall be transported to final destination from temporary holding facilities within 24 hours after capture unless prior approval is granted by the BLM for unusual circumstances. Animals to be released back into the HMA following gather operations may be held up to 21 days or as directed by the BLM. Animals shall not be held in traps and/or temporary holding facilities on days when there is no work being conducted except as specified by the BLM. The Contractor shall schedule shipments of animals to arrive at final destination between 7:00 a.m. and 4:00 p.m. No shipments shall be scheduled to arrive at final destination on Sunday and Federal holidays, unless prior approval has been obtained by the BLM. Animals shall not be allowed to remain standing on trucks while not in transport for a combined period of greater than three (3) hours. Animals that are to be released back into the capture area may need to be

transported back to the original trap site. This determination will be at the discretion of the BLM.

11. The BLM will issue a Notice of Intent to Impound Unauthorized Livestock prior to all gathers. Branded or privately owned animals whose owners are known will be impounded by BLM, and if not redeemed by payment of trespass and capture fees, will be sold at public auction. If owners are not known, the private animals will be turned over to the State for Processing under Nevada estray laws.

E. Motorized Equipment

1. All motorized equipment employed in the transportation of captured animals shall be in compliance with appropriate State and Federal laws and regulations applicable to the humane transportation of animals. The Contractor shall provide the BLM with a current safety inspection (less than one year old) for all motorized equipment and tractor-trailers used to transport animals to final destination.

2. All motorized equipment, tractor-trailers, and stock trailers shall be in good repair, of adequate rated capacity, and operated so as to ensure that captured animals are transported without undue risk or injury.

3. Only tractor-trailers or stock trailers with a covered top shall be allowed for transporting animals from trap site(s) to temporary holding facilities, and from temporary holding facilities to final destination(s). Sides or stock racks of all trailers used for transporting animals shall be a minimum height of 6 feet 6 inches from the floor. Single deck tractor-trailers 40 feet or longer shall have two (2) partition gates providing three (3) compartments within the trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing two (2) compartments within the trailer to separate the animals. Compartments in all tractor-trailers shall be of equal size plus or minus 10 percent. Each partition shall be a minimum of 6 feet high and shall have a minimum 5 foot wide swinging gate. The use of double deck tractor-trailers is unacceptable and shall not be allowed.

4. All tractor-trailers used to transport animals to final destination(s) shall be equipped with at least one (1) door at the rear end of the trailer which is capable of sliding either horizontally or vertically. The rear door(s) of tractor-trailers and stock trailers must be capable of opening the full width of the trailer. Panels facing the inside of all trailers must be free of sharp edges or holes that could cause injury to the animals. The material facing the inside of all trailers must be strong enough so that the animals cannot push their hooves through the side. Final approval of tractor-trailers and stock trailers used to transport animals shall be held by the BLM.

5. Floors of tractor-trailers, stock trailers, and the loading chute shall be covered and maintained with wood shavings to prevent the animals from slipping.

6. Animals to be loaded and transported in any vehicle or trailer shall be as directed by the BLM and may include limitations on numbers according to age, size, sex, temperament, and animal condition. The following minimum square feet per animal shall be allowed in all trailers:

   11 sq. ft. per adult horse (1.4 linear ft. in an 8ft. wide trailer);
   6 sq. ft. per horse foal (.75 linear ft. in an 8ft. wide trailer).

7. Prior to any gathering operations, the BLM will provide for a pre-capture evaluation of existing conditions in the gather areas. The evaluation will include animal condition, prevailing temperatures, drought conditions, soil conditions, road conditions, and a topographic map with location of fences, other physical barriers, and acceptable trap locations in relation to animal distribution. The evaluation will determine the level of activity likely to cause undue stress to the animals, and whether such stress would necessitate a veterinarian be present. If it is determined that capture efforts necessitate the services of a veterinarian, one would be obtained before capture would proceed. The Contractor will be informed of all the conditions and will be given directions regarding the capture and handling of animals to ensure their health and welfare is protected.

8. If the BLM determines that dust conditions are such that animals could be endangered during transportation, the Contractor will be instructed to adjust speed.

9. Trap sites will be located to cause as little injury and stress to the animals, and as little damage to the natural resources of the area, as possible. Sites will be located on or near existing roads. Additional trap sites may be required, as determined by the BLM, to relieve stress caused by specific conditions at the time of the gather (i.e. dust, rocky terrain, temperatures, etc.).

F. Animal Characteristics and Behavior

Releases of wild horses would be near available water. If the area is new to them, a short-term adjustment period may be required while the wild horses become familiar with the new area.

G. Public Participation

It is BLM policy that the public will not be allowed to come into direct contact with wild horses or burros being held in BLM facilities. Only BLM personnel, or contractors may enter the corrals or directly handle the animals. The general public may not enter the corrals or directly handle the animals at anytime or for any reason during BLM operations.

H. Responsibility and Lines of Communication

Ely District

Contracting Officer's Representatives
Jared Bybee
Jody Nartz

Project Inspectors
Mike Perkins

The Contracting Officer's Representatives (CORs) and the project inspectors (PIs) have the direct responsibility to ensure the Contractor's compliance with the contract stipulations. The Ely Assistant Field Manager for Renewable Resources and the Ely Field Manager will take an active role to ensure the appropriate lines of communication are established between the field, Field Office, State Office, National Program Office, and PVC Corral offices. All employees involved in the gathering operations will keep the best interests of the animals at the forefront at all times.

All publicity, formal public contact and inquiries will be handled through the Assistant Field Manager for Renewable Resources. This individual will be the primary contact and will coordinate the contract with the PVC Corrals to ensure animals are being transported from the capture site in a safe and humane manner and are arriving in good condition.

The contract specifications require humane treatment and care of the animals during removal operations. These specifications are designed to minimize the risk of injury and death during and after capture of the animals. The specifications will be vigorously enforced.

Should the Contractor show negligence and/or not perform according to contract stipulations, he will be issued written instructions, stop work orders, or defaulted.

APPENDIX II

POPULATION MODELING

Population modeling was completed for the proposed action and the alternatives. One hundred trials were ran, simulating population growth and herd demographics to determine the projected herd structure for the next four years, or prior to the next gather. The computer program used simulates the population dynamics of wild horses. It was written by Dr. Stephen H. Jenkins, Department of Biology, University of Nevada, Reno, under a contract from the National Wild Horse and Burro Program of the Bureau of Land Management and is designed for use in comparing various management strategies for wild horses.

To date, one herd has been studied using the 2-year PZP vaccine. The Clan Alpine study, in Nevada, was started in January 2000 with the treatment of 96 mares. The test resulted in fertility rates in treated mares of 6% year one, 18% year two and 32% year three. This data must be compared to normal fertility rates in untreated mares of 50/60% in most populations. The Clan Alpine fertility rate in untreated mares collected in September of each year by direct observation averaged 51% over the course of the study.

Interpretation of the Model

The estimated population of 343 wild horses, based on a June 2003 census, was used in the population modeling. Year one is the baseline starting point for the model, and reflects wild horse numbers immediately after a gather action, or the lack of action in the case of Alternative III. In this population modeling, year one would be 2004. Year two would be exactly one year in time from the original action, and so forth for years three, four, and five. Consequently, at year five in the model, exactly four years in time would have passed. In this model, year five is 2008. This is reflected in the Population Size Modeling Table by "Population sizes in 5 years" and in the Growth Rate Modeling Table by "Average growth rate in 4 years". Growth rate is averaged over four years in time, while the population is predicted out the same four years to the end point of year five. The Full Modeling Summaries contain tables and graphs directly from the modeling program.

Population Modeling Comparison For the Alternatives

This table compares the projected population growth for the proposed action and the alternatives at the end of the four-year simulation. The population averages are from the median trial.

Modeling Statistic	Proposed Action	Alt. I	Alt. II
Population in Year One	54	54	343
Median Growth Rate	21	12.1	15.7
Average Population	160	142	519

Lowest Average Population	118	102	365
Highest Average Population	241	208	657

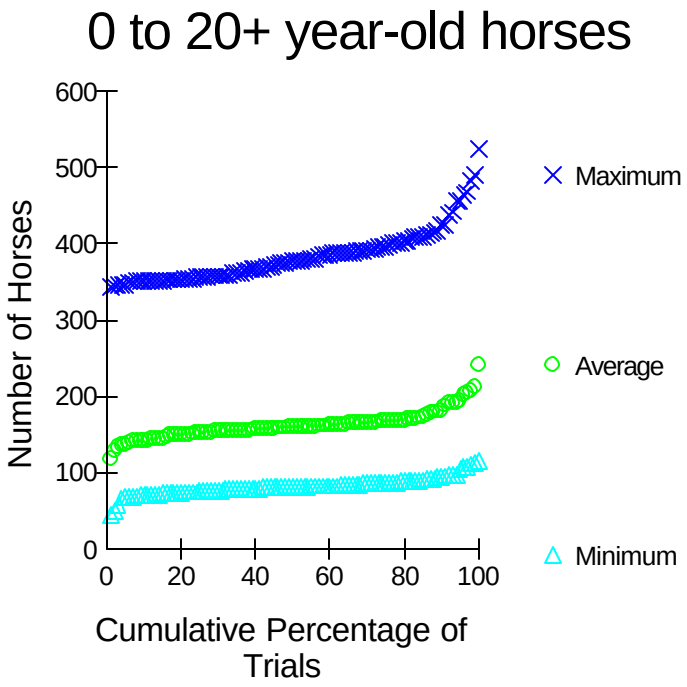
Full Modeling Summaries:

Proposed Action: Removal to 54 without Fertility Control

The parameters for the population modeling were:

12. gather when population exceeds 90 animals
13. foals are not included in AML
14. percent to gather 100
15. four years between gathers
16. number of trials 100
17. number of years 4
18. initial calendar year 2004
19. initial population size 343
20. population size after gather 54
21. implement selective removal criteria
22. no fertility control

Population Size Modeling Table and Graph

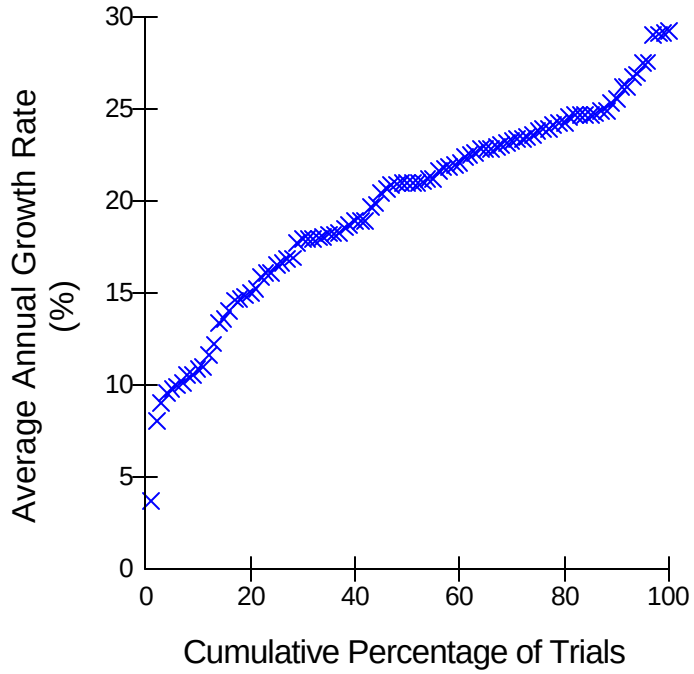



```
Population Sizes in  5 Years*
                    Minimum  Average
Maximum
Lowest Trial           46     118
344
10th Percentile        71     142
352
25th Percentile        76     152
356
```

Median Trial	82	160
377		
75th Percentile	87	168
398		
90th Percentile	95	185
424		
Highest Trial	115	241
525		

* 0 to 20+ year-old horses

Growth Rate Modeling Table and Graph



Average Growth Rate in 4 Years	
Lowest Trial	3.7
10th Percentile	10.9
25th Percentile	16.5
Median Trial	21.0
75th Percentile	23.8
90th Percentile	25.9
Highest Trial	29.3

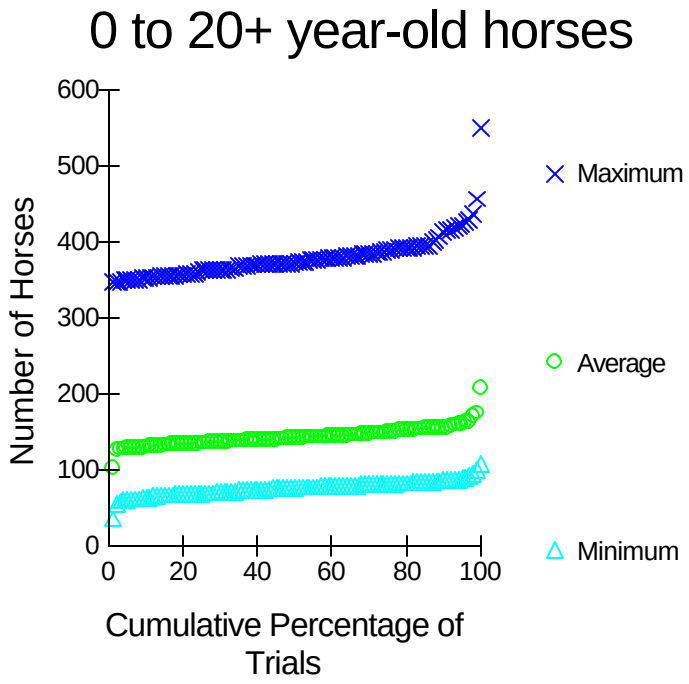
Alternative I: Removal to 54 With Fertility Control

The parameters for the population modeling were:

1-11. same as proposed action

11. treat all mares released with fertility control

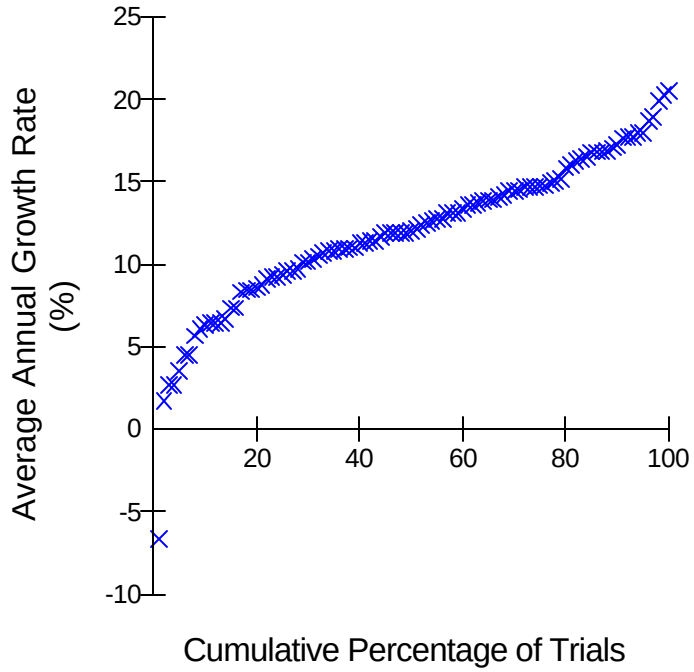
Population Size Modeling Table and Graph



	Population Sizes in 5 Years*		
	Minimum	Average	Maximum
Lowest Trial	35	102	346
10th Percentile	63	130	352
25th Percentile	68	135	362
Median Trial	76	142	372
75th Percentile	81	149	388
90th Percentile	86	155	414
Highest Trial	107	208	549

* 0 to 20+ year-old horses

Growth Rate Modeling Table and Graph



Average Growth Rate in 4 Years	
Lowest Trial	-6.7
10th Percentile	6.3
25th Percentile	9.4
Median Trial	12.1
75th Percentile	14.8
90th Percentile	17.4
Highest Trial	20.5

Alternative II: No Action Alternative

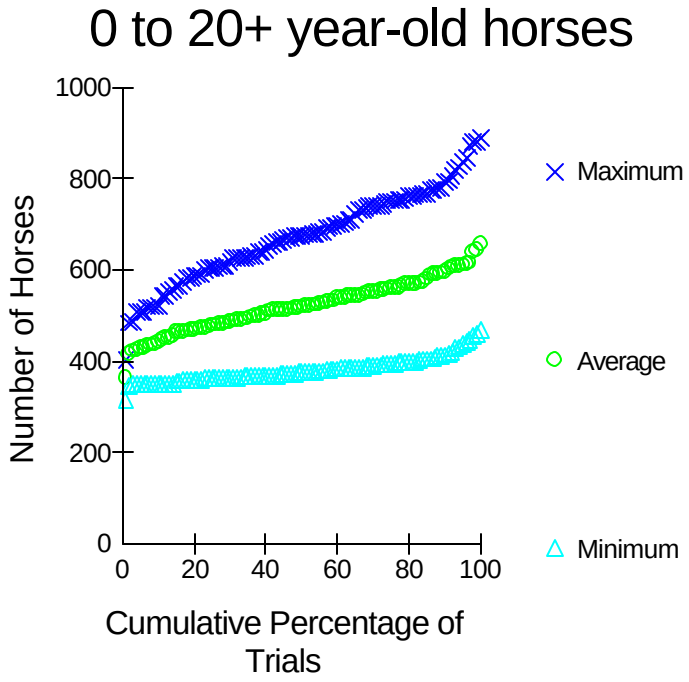
The parameters for the population modeling were:

4. do not gather
5. foals are not included in AML
6. percent to gather 0

4-9. same as in Proposed Action

9. no fertility control

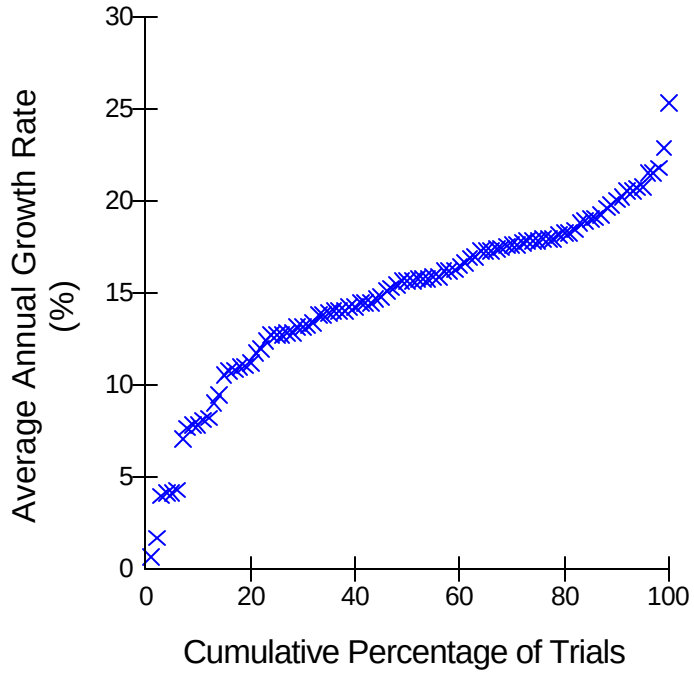
Population Size Modeling Table and Graph



Population Sizes in 5 Years*			
	Minimum	Average	Maximum
Lowest Trial	315	365	401
10th Percentile	350	444	532
25th Percentile	361	479	604
Median Trial	375	519	676
75th Percentile	395	559	751
90th Percentile	414	600	794
Highest Trial	467	657	890

* 0 to 20+ year-old horses

Growth Rate Modeling Table and Graph



Average Growth Rate in 4 Years	
Lowest Trial	0.6
10th Percentile	7.9
25th Percentile	12.7
Median Trial	15.7
75th Percentile	17.9
90th Percentile	20.1
Highest Trial	25.3